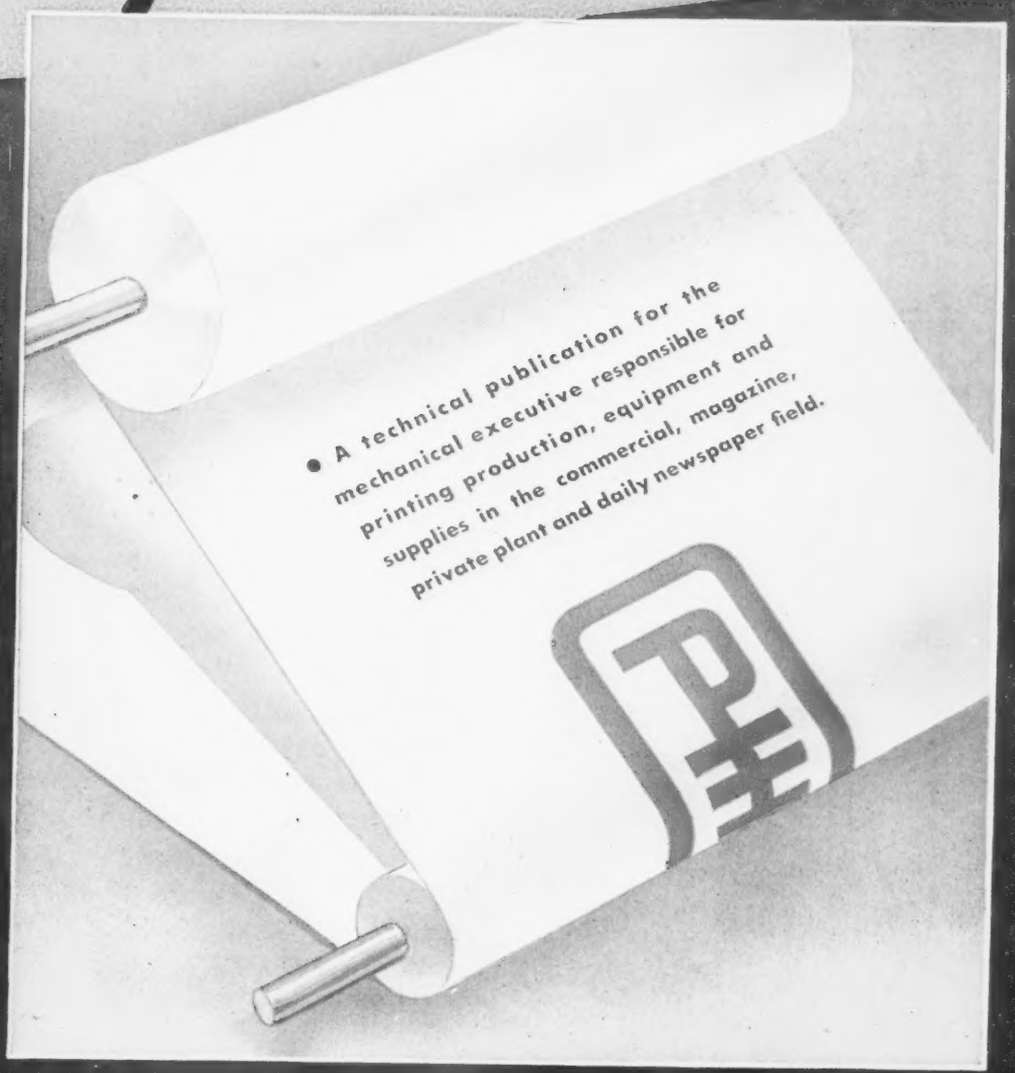
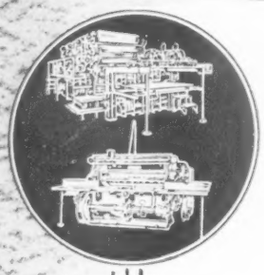
PRINTING EQUIPMENT *Engineer*

MARCH 1945



• A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.



CERTAINLY...there will be new graphic arts equipment after the wa.

PREMATURELY—in view of existing conditions—there has been considerable comment on, and predictions about, new equipment development in the Graphic Arts. Inferences have been drawn that, in some instances, approach the fantastic.

Certainly—there will be improved, new equipment. It will come the *hard* way—as all worthwhile achievements have come in the past. New machinery becomes commercially practicable only when it has been proven by the *test of time.* This is obvious.

Harris and Seybold will lead in new developments. We will discuss them, with frankness, at the proper time.

Taking the Industry into our Confidence

ARMY E NAVY

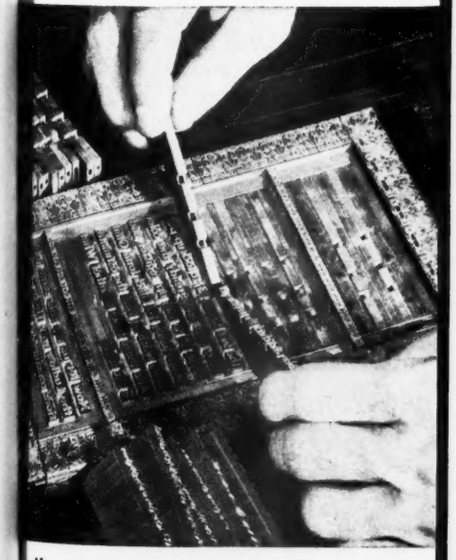
HARRIS • SEYBOLD • POTTER COMPANY

HARRIS DIVISION
CLEVELAND 5, OHIO
Manufacturers of
OFFSET LITHOGRAPHIC • LETTERPRESS AND GRAVURE PRINTING MACHINERY

SEYBOLD DIVISION
DAYTON 7, OHIO
Manufacturers of
PAPER CUTTERS AND TRIMMERS • KNIFE GRINDERS
DIE PRESSES • WRIGHT DRILLS • MORRISON STITCHERS

he Ludlow-set form is locked up he press. The color borders would stitute the key form.

To identify them, the stoneman or compositor has notched some blank point slugs on the saw.



dlow typeface slugs to run in black emoved—each is replaced with a ied blank 12-point slug.

Breaking For Color with Ludlow

• Color separation always is a laborious process with single type composition. To produce in single types the form here illustrated, the printer must (1) set and make up, proof and correct it; (2) break for color, check register of both forms; (3) lock up color form, position it and make ready; and (4) lock up the black form, register it and make ready.

• Contrast this with the simplicity of setting and breaking for color with Ludlow all-slug composition. As shown in these illustrations, with the Ludlow the procedure is both simple and direct, avoiding lost time or any unnecessary operations.

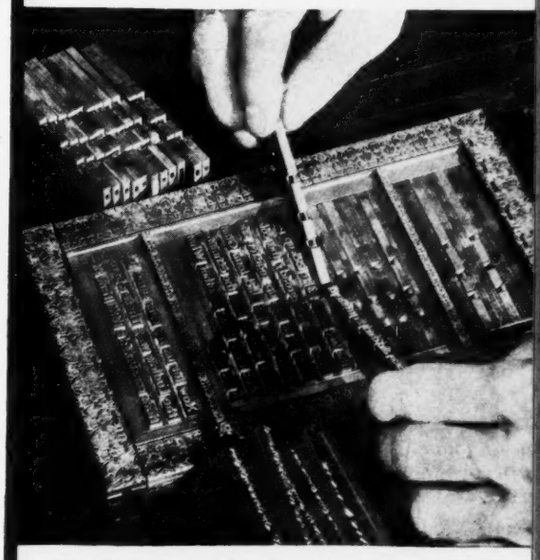
• This Ludlow simplicity is possible because typeface slugs, border slugs and blank slugs are all cast with 12-point body, making changes from one to the other quick, easy and accurate.

• The usual requirement of making up the second form when breaking for color is eliminated with the Ludlow. Make-ready time is reduced to the minimum.

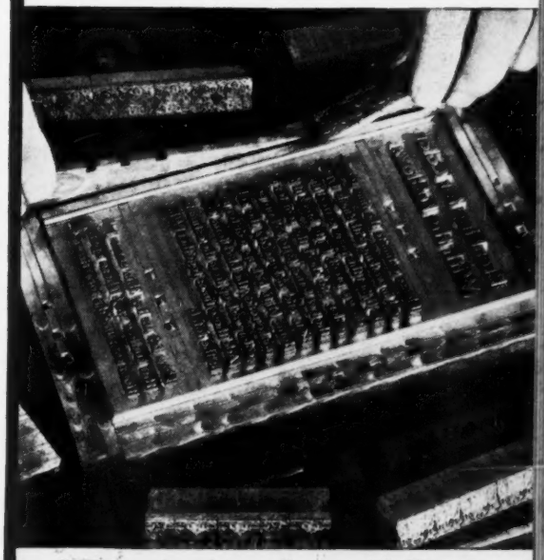
• Economy in color separation is only one of many Ludlow advantages. Write us for full information about other time-saving Ludlow features.

LUDLOW
Typograph Company
2032 Clybourn Avenue, Chicago 14

4. The color-border form is now ready for printing. It is unnecessary to make up a second form for the typeface slugs.



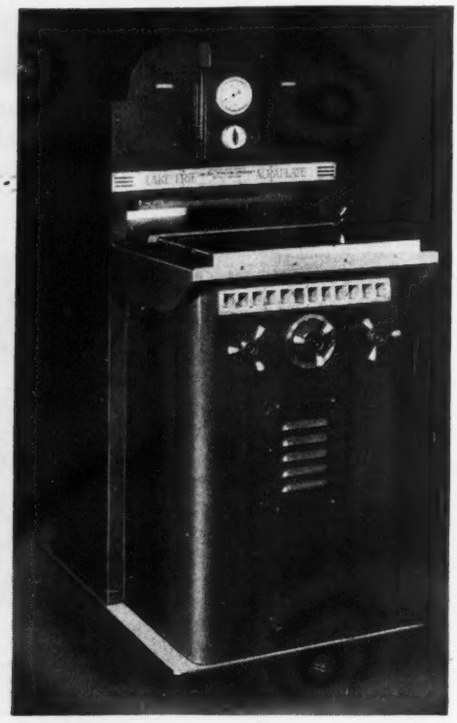
5. After the color form is run, notched blank 12-point slugs are replaced with typeface slugs with 12-point body.



6. The color slugs, all cast with 12-point body, are taken out and replaced with notched blank 12-point slugs.

More plants use LAKE ERIE ACRAPLATE PRESSES

as the modern method for molding rubber or plastic plates than any other make!



Lake Erie Acraplate Presses have played an important part in the tremendous forward strides that the printing industry has made in the economical and efficient use of molded rubber and plastic plates.

These presses hold this unmatched record. Previous users of every make of vulcanizer have replaced or augmented such equipment with Lake Erie Acraplates. No company producing rubber plates on Lake Erie equipment has ever bought any but additional Lake Erie presses.

Farsighted companies who are contemplating the many advantages of printing with rubber or plastic plates are ordering Acraplates now for future delivery. Write for complete information.

A FEW ACRAPLATE ENGINEERING "FIRSTS"

1. Rugged Side Plate Design.
2. Large Diameter Rams.
3. Industrial Type Rotary Vane Hydraulic Pumps.
4. Positive Fingertip Control of Pressure.
5. Adjustable Gib Guides for Moving Platen.
6. Ball-Bearing Rolling Plate for Work.

568 Woodward Avenue, Buffalo 17, N. Y.

LAKE ERIE
ENGINEERING CORP.
BUFFALO, N.Y. U.S.A.

A BIG UMBRELLA

that covers the LARGE *and the* SMALL

The Imperial PLUS PLAN is like a big umbrella. It's big enough to cover both the large and the small plant, affording each dependable, adequate type metal protection . . . . Yes, protection against metal troubles and machine production losses caused by faulty metal, plus protection against excessive yearly metal costs and worry. Regardless of the size of your plant, it should be "Imperialized". That means placing your metal under the PLUS PLAN and sending samples regularly for analysis . . . . Let us send you complete details showing how this plan can work to your advantage . . .

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

PHILADELPHIA NEW YORK CHICAGO

Imperial

Basic Axioms in a Wartime Economy · No. 6

DURABILITY UNLIMITED
Behind unfailing wartime production
from prewar Miller Automatics,
are advanced design, construction and materials,
assuring endurance far into the unknown future
—a visible promise of inherent durability
in new Millers to come.
miller

Wood
NEWSPAPER
MACHINERY

War-Time Maintenance

for Automatic, Junior and Pony Autoplates

•

CLEANING HOLES IN VACUUM CASTING BOX

•

Whenever impurities clog up holes in the Autoplate Vacuum Casting Box—follow these recommended cleaning methods:

A: For clogged 1/16" horizontal holes:

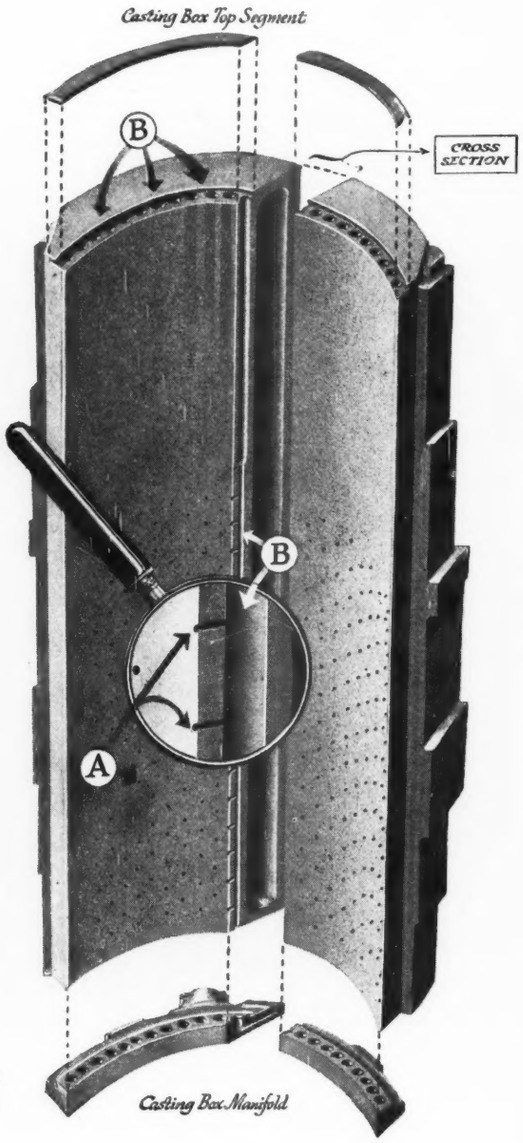
Drill out with electric hand drill, or punch out with sharp-pointed tool.

B: For clogged large vertical holes:

Remove casting box manifold and top segment. Minor obstructions may be removed by driving out with a long rod.

If obstructions cannot be driven out this way, remove casting box, and drill out holes from the bottom, using a 1/4" drill with a long shank.

CAUTION: Do not attempt to remove metal from holes by the application of heat.



This is No. 27 in the Wood Series of Maintenance Hints. Reprints are available if your set is not complete.

Wood Newspaper Machinery Corporation

Plainfield, New Jersey **New York Office: 501 Fifth Avenue**

PRINTING EQUIPMENT *Engineer*

Volume 69 Number 6

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

PRINTING EQUIPMENT Engineer, Published monthly at 1276 West Third St., Cleveland 13, Ohio, Copyright 1945 by Willsea Publishing Co.

BUSINESS STAFF

DON WILL, Publisher

E. P. Bloomster, Western Representative
232 East Erie St., Chicago 11, Ill.
Phone SUperior 2444.

EDITORIAL STAFF

MacD. SINCLAIR
Editor

ADAM HENRI REISER
Associate Editor

HERMAN SLATER
Associate Editor

★

Subscription price per year, $3.50 in advance in U. S. A. Single copy current issues 35c; feature issues $1 per copy; December Equipment and Supplies Catalog Issue $1 per copy. Subscriptions in foreign countries as permitted for duration $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving **Printing Equipment Engineer** under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Controlled
CCA
Circulation Audit

Printed in U. S. A.

Leading Articles

MARCH 1945

New Lockup
for stereotype printing plates for newspaper presses —Plates are held circumferentially under constant tension—Test runs at 84,000 papers per hr. reported satisfactory 11

Floors
in the printing plant discussed—Qualities vary with mechanical department—Floors have received careful engineering consideration 15

Auxiliary Filling Piece for Chute Rail Block 17

Static Electricity
In the Printing Industries—Theory of Static Electricity—Static Collection in the Pressroom—Neutralizing 18

Porter
Discusses growth of Offset Lithography during the war. Prices for Graphic Arts Machinery will be higher in postwar period. 22

Non-Offset Solutions
Ingredients used in sprays in seven printing establishments 23

Equipment and Supplies
Mobile Stock and Repair Cart 21
Rubber Cement for Bonding Materials 26

Printing Patents Report 29

Executive Paragraphs 36

WPB News and Notes 39

TECHNICAL BOOKS

STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

PRINTING INKS—Their Chemistry and Technology—**By Carleton Ellis.** Bound in cloth, 6 in. by 9½ in., 560 pages, well illustrated. For printing executives, pressmen, photo-engravers, platemakers, ink manufacturers, chemists, paper-makers. Author stays close to printing plant. The solving of new production problems brought about by technological improvements, both in equipment and inks, created the urgent need for this book. Price $7, cash with order.

THE PRACTICE OF PRESSWORK—By Craig R. Spicher. We offer copies to our readers, at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed).

LITHOGRAPHERS MANUAL — Compiled by Walter E. Soderstrom. Second revised edition. Technical information from copy to finished job. Nationally known technical men contributed the bulk of practical camera, platemaking and presswork information. Size 8½ in. by 11¼ in. Bound in red cloth, gold stamped. Many of the 368 pages are illustrated. Price $5 per copy, cash with order.

PHOTOGRAVURE—By H. Mills Cartwright. Covers all of photogravure's basic principles in concise and readable language. Rotogravure receives minor discussion but this is generally considered best textbook on photogravure process. Contains 202 pages, 34 illustrations, maroon cloth, size 6¼ in. by 9¼ in., $3.50 per copy, cash with order.

MANUAL OF STEREOTYPING—By Joseph Goggin. This 256-page book conveys technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00, cash with order.

PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photo-engravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $2 per copy, cash with order.

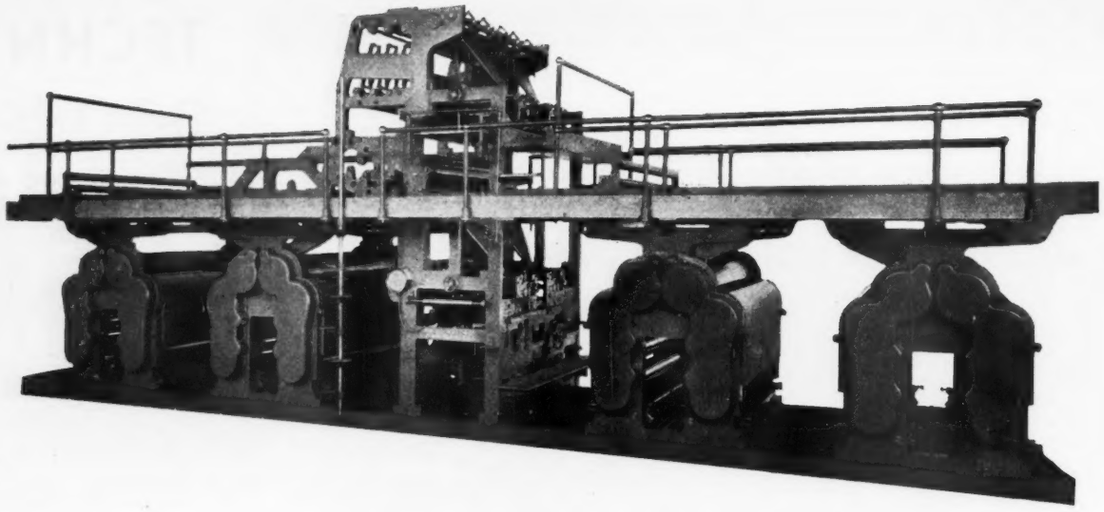
HOW TO ADJUST WORK-UPS—By Wm. H. Lichter and Geo. F. Smalley. Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and/or elimination of work-ups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy, cash with order.

HANDBOOK FOR PRESSMEN—By Fred W. Hoch. Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts, $3 per copy, cash with order.

READING AS A VISUAL TASK—By Matthew Luckiesh, D.Sc. and Frank Moss, E.E. Most important research work to have been published in many years. For printers, designers, publishers, typographers and layout men. Readability of type, type faces, length of line, leading between lines, paper, ink, printing method and lighting are some of the factors involved in ease of reading. Size 5½ in. by 8⅜ in., 428 pages, bound in maroon gold stamped cloth. Price $5 per copy. Please enclose remittance with order.

Please Note: All books orders must be accompanied by remittance .... This is necessary because of narrow handling margin allowed.

PRINTING EQUIPMENT
Engineer
1276 W. 3 St., Cleveland 13, Ohio



SMOOTH DRIVE

HERETOFORE the general practice in press design has been to drive the vibration and ink feed — whether by ductor, continuous film or pumps — from the printing cylinder drive. This transmitted the pulsations of the inking to the printing cylinders.

★ The New Scott Extra-High-Speed Press divorces these functions and reactions entirely from the Printing Cylinder Drive. Instead, they are driven directly from the main press driving shaft by separate gears and shafts.

★ The result is a perfectly smooth drive to the Printing Cylinders and a uniformity of both the inking and the impression not otherwise obtainable. It also eliminates wear and stresses formerly taken by the printing cylinder gearing.

WALTER SCOTT & CO., INC.

525 SOUTH AVENUE **PLAINFIELD, N. J.**

Hammond OF KALAMAZOO

Glider ACTION!

There is nothing like the action of the Glider's ball bearing table. You will really get action with a Glider—it's the fastest saw ever made.

Lasting accuracy is proof of the durability of Hammond construction features, which provide easy, quick, adjustable take-ups to maintain top performance at all times.

Every Glider has done its war job well. Plan now on one doing a good post-war job for you. You too can enjoy the trouble-free, fast and accurate sawing that a Hammond Glider will give you.

Hammond Machinery Builders INC.

1604 DOUGLAS AVE. KALAMAZOO 54, MICH.

Eastern Branch: 71 West 23rd Street, New York 10, N. Y.

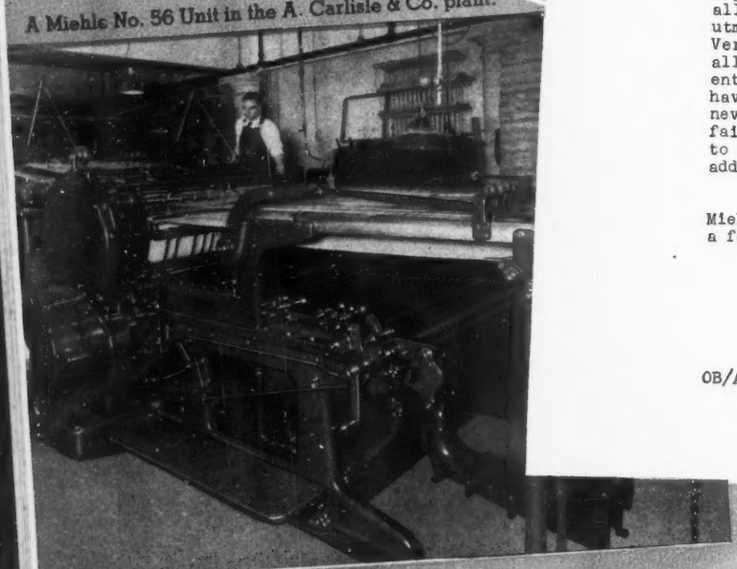
East Coast...West Coast...Letterpress or Offset

They're Mighty Glad they have Miehles

Both these printers, a continent apart, established in one case 93 years ago and in the other 101 years ago, *should know press equipment.*

Their letters therefore are very revealing.

A Miehle No. 56 Unit in the A. Carlisle & Co. plant.



PREDECESSORS
BRITTON & REY LITHOGRAPHERS 1852
PAYOT UPHAM & CO 1854
A CARLISLE & CO 1878
F MALLOYE & CO 1882
ISAAC UPHAM & CO 1906
INGRIM RUTLEDGE CO 1916

A. CARLISLE & CO.

PRINTERS—STATIONERS
LITHOGRAPHERS

135 POST STREET
SAN FRANCISCO 8

A CARLISLE & CO OF NEVADA
RENO NEVADA

CABLE ADDRESS ACCO
TELEPHONE
GARFIELD 2746

December 13, 1944

Mr. Harold Iverson
Miehle Printing Press and Manufacturing
Company
582 Howard Street
San Francisco, California

Dear Mr. Iverson:

In a printing plant such as ours, which is located in a part of the country so far removed from the printing press manufacturer's home offices, it is essential that mechanical failures in our pressroom be kept at minimum.

We are pleased to say that in spite of the trying conditions under which we have been operating, all of our Miehle presses have been producing with utmost efficiency. Our two new automatic units, V-50 Verticals, and new Horizontal presses have done for us all that you claimed they would do. In fact, in our entire Miehle pressroom, and some of our Miehle presses have been in constant use for over 20 years, we have never experienced a serious breakdown or mechanical failure. The Miehle press always has had a tendency to attract the better type of pressman, which is an added advantage.

Obviously we are glad we again decided on Miehles when we made several additions to our pressroom a few years ago.

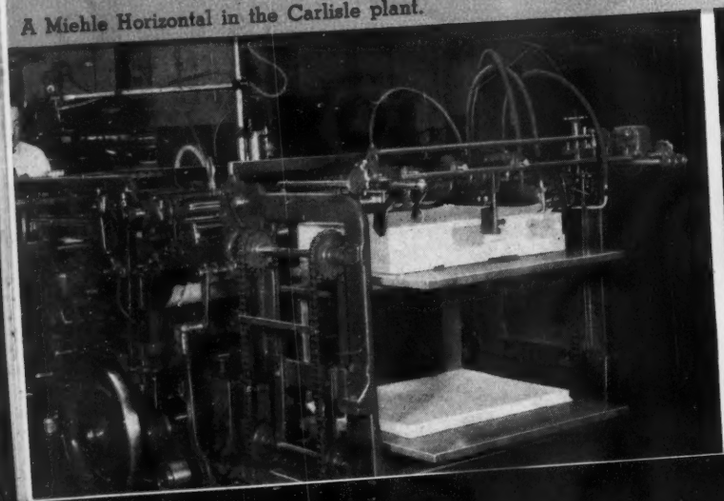
Yours very truly,

A. CARLISLE & CO.

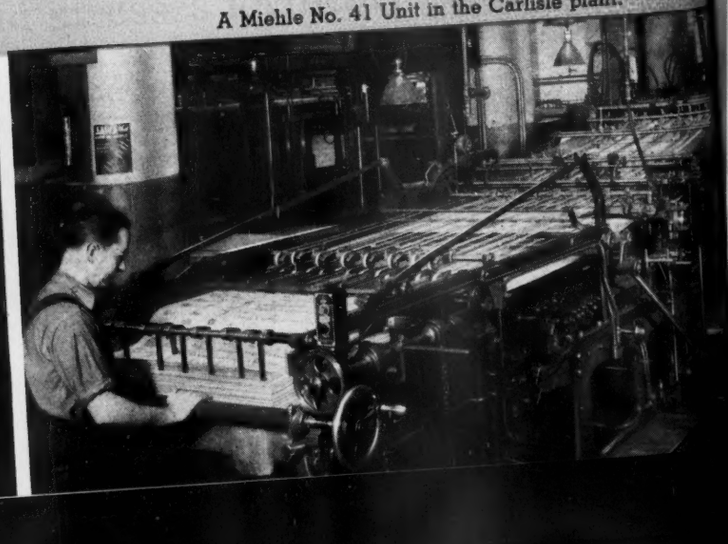
OB/AF

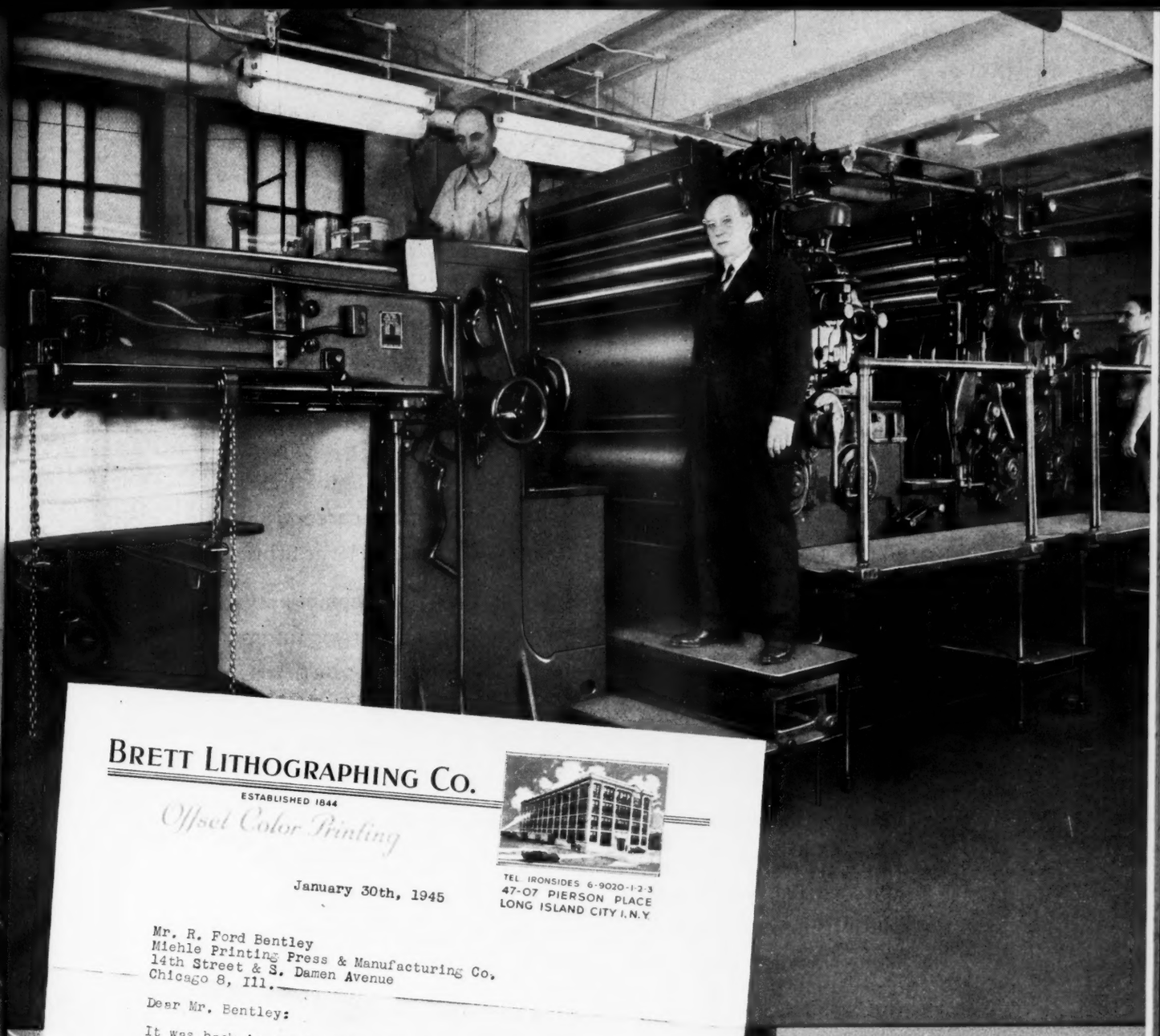
BY
Vice President

A Miehle Horizontal in the Carlisle plant.



A Miehle No. 41 Unit in the Carlisle plant.





BRETT LITHOGRAPHING CO.

ESTABLISHED 1844

Offset Color Printing

TEL IRONSIDES 6-9020-1-2-3
47-07 PIERSON PLACE
LONG ISLAND CITY I, N.Y.

January 30th, 1945

Mr. R. Ford Bentley
Miehle Printing Press & Manufacturing Co,
14th Street & S. Damen Avenue
Chicago 8, Ill.

Dear Mr. Bentley:

It was back in April, 1927, when Brett first installed Miehle offset presses and we have been installing them since until now they represent more than 50% of our lithographic equipment. During this period, they have run more than the usual eight hour shift, for we operate night crews.

They have caused us little or no trouble in maintenance for they seem to be properly engineered and very sturdily built. In this wartime emergency, when new parts are difficult to obtain, it is a real source of satisfaction to know that they are not required on the Miehles.

We are confident that our splendid relationships of the past will continue.

Yours very truly,

BRETT LITHOGRAPHING COMPANY

W. M. Winship
GENERAL MANAGER

WMW:BJ

... 100 YEARS OF GOOD LITHOGRAPHY ... 1944

Mr. Wm. M. Winship, General Manager, on the step of a Miehle Offset Press in the Brett Lithographing Co. plant.

East or west, letterpress or offset, *you'll* be mighty glad when *you* have MIEHLES

MIEHLE

PRINTING PRESS & MANUFACTURING CO.

14th St. and Damen Ave., Chicago 8, Ill.

Don't forget...

"While the end product of postwar planning is employment, there are by-products that augur well for the future of American enterprise. Chief among them are business analysis and cooperation.

Consider first the science of analyzing. There are untold hundreds of businessmen who, for the first time in their careers, are applying principles long used by the more successful large firms.

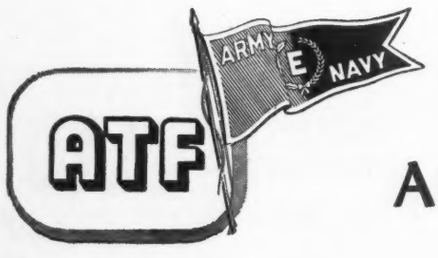
In analyzing how they can help provide jobs in their community, these businessmen are getting their first taste in charting future activities on a sound course. They are anticipating growth that will provide jobs—not hopes or guesswork—on the knowledge of such basic factors as population and market trends, consumer wants and buying power!

Of equal importance is the postwar planning by-product—cooperation. Businessmen have always exhibited a wholesome spirit of community action when the cause has been that of patriotism, human needs, or social betterment. Cooperation along business lines, however, has been far less frequent.

But war has forced a realization of the interdependency of all business. It has taken extreme cooperation to maintain a winning home front. Business is now realizing that it will take an even greater spirit of helpfulness to hurdle the next emergency —the transition period.

Not only should such concerted efforts go far in solving the reconversion problems but they should make for a more stable business economy in the peace to come."

Quoted from *Domestic Commerce*,
a publication of the Department of Commerce



If you would like to have a copy of **ATF's** Plan Now for Tomorrow's Printing, *ask the man who represents* **ATF**, *or write to*

AMERICAN TYPE FOUNDERS

200 Elmora Avenue, Elizabeth B, New Jersey

New Lockup...

for stereotype printing plates for newspaper presses developed by Goss Printing Press Co. — Plates are held circumferentially under constant tension — Test runs at 84,000 papers per hr. reported satisfactory

By CURTIS S. CRAFTS*

**Chief Engineer, Goss Printing Press Company.*

PROBABLY ever since the introduction of curved stereotype and electrotype printing plates they have been locked or clamped onto the press cylinder by the same basic method. Stereotype plates, for use on newspaper presses, have generally had beveled edges cast or machined on their sides, these beveled edges lying circumferentially of the cylinder when the plate is locked thereon. The leading and trailing edges of the plate, which lie longitudinally of the cylinder, have generally been cast without any bevel, although in some instances, in an attempt to more securely lock the plate to the cylinder, various modifications of this practice have been tried out.

The plate cylinders for double width presses have generally had the center ring set into them at the center of the cylinder, this ring having beveled sides projecting beyond the cylinder surface against which the beveled edges of the two center plates are forced. Sliding clamps, held in the cylinder in T-slots and arranged with beveled sides above the cylinder surface, were provided in the position between the inside and outside plates. A similar outside clamp was positioned to grip the outside edge of the outside plate, this clamp being arranged to be moved lengthwise of the cylinder by means of a screw or other actuating device.

Figure 1, showing half of a cylinder, where *A* is the center ring, *B* the center clamp, *C* the end clamp and P_1 and P_2 are the printing plates, illustrates the basic principle of this device. With the parts in the position shown, the end clamp would be forced to the right by means of its operating mechanism and thus the plates, gripped by their beveled edges, would be held down onto the cylinder and prevented from flying off as the cylinder rotates. The number of center and end clamps per plate around the cylinder varied with the different press manufacturers, as did the method of moving the sliding clamps into locking and unlocking position, but basically the principle was the same for all types and makes of newspaper presses. The plates were prevented from sliding around the cylinder by means of driving stops, set lengthwise into the cylinder, against which the trailing edge of the plate was set.

This type of lockup proved to be entirely adequate as to holding the plates on the cylinders when presses were operated at speeds up to about 36,000 papers per hour, and a fair degree of success has been experienced with its use at speeds up to 50,000 papers per hour.

Loose plates and plate breakage have always been a source of trouble in a pressroom, and inferior printing, not attributable to the plates themselves nor to press operation, has caused many headaches for the mechanical staffs of the various newspapers, while web breaks and relatively short blanket life have many times been a source of added expense to the publisher. We therefore determined that if high speed operation were to be entirely successful and if the defects in press operation mentioned, were to be overcome, a careful study of the action of the plates under running conditions would have to be made and a means found, if necessary, to improve these conditions. Tests were therefore conducted and an analysis made of the various forces acting on the plate; these were tabulated and studied, and it was revealed that the plate lockup was greatly at fault and that an entirely new means of holding the plates on the cylinder would have to be developed.

It will be observed, referring to Fig. 1, that the clamping action of the sliding clamps *C* and *B* as they are forced against the plate edges, tends to buckle the plates, which are made of relatively soft material. Having very little stiffness, lengthwise, the amount of buckling depends upon the amount of force with which the clamps are set against the plates, and this buckling will tend to lift the center of the plate off of the cylinder. This buckling will be greater the longer the plate, and for this reason double page plates (those having two pages per plate) have always caused a great deal of difficulty for the press operator. Further, since the edges of the plate are beveled, the clamps, while forcing the plate ends down onto the cylinder, are themselves forced out toward the cylinder surface. They are, of course, held into the cylinder by means of the T-slot, but any excess wear of either the slot or the clamp body will allow this body to come out beyond the surface of the cylinder and the plate will therefore be loose. No doubt, most pressmen have experienced this difficulty and have, from time to time, either refitted the clamps and slots, or provided split clamps whereby the looseness can be taken up in order to prevent slapping of the plates during the running of the press.

It was readily determined that forces other than the tendency of the lockup to buckle the plate also tend to lift the plate from the cylinder. The action of the plate during rotation of the cylinder and under impression is illustrated in Fig. 2, 2a and 2b.

The plate cylinder being rotated counter-clockwise at press operating speed comes into the position shown in Fig. 2, the leading edge of the plate thus coming onto impression, and this action causes a force represented by the arrow *F* to be exerted against the end of the plate, which is sufficiently great to force it backward a small amount and thus lift the middle of the plate away from the cylinder body. Centrifugal force caused by rotation of the plate, and acting outwardly and away from the center of the cylinder, accentuates this condition. The amount the plate is lifted is, of course, greatly exaggerated in the figure and depends chiefly on the amount of impression carried, press operating speed, how well the plates fit the cylinder, and the strength of the stereotype metal. It occurs with all present types of lockup since the basic principle is wrong, but for the reasons outlined, it can vary con-

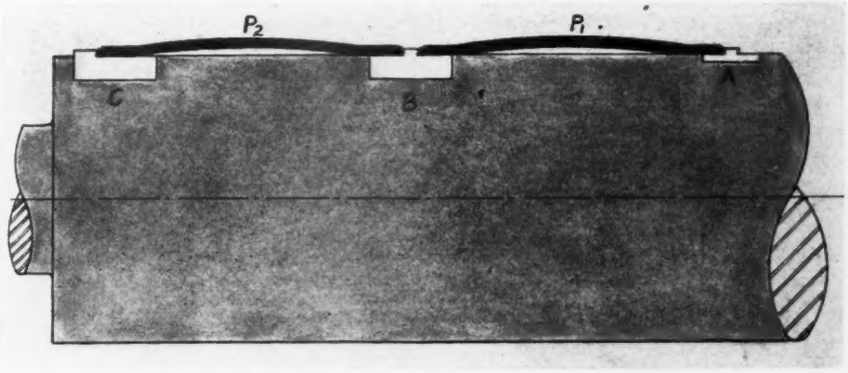


Fig. 1. — Diagram representing present type of plate lockup shows how lockup tends to bow plates across the cylinder if too much pressure is applied by the clamps.

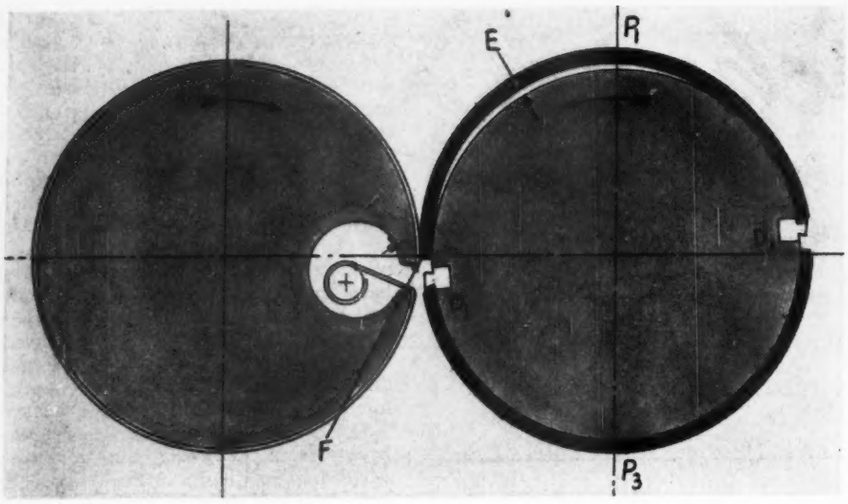


Fig. 2.—Diagram representing present type of plate lockup showing plates on cylinder at time the leading edge of the plate comes onto impression.

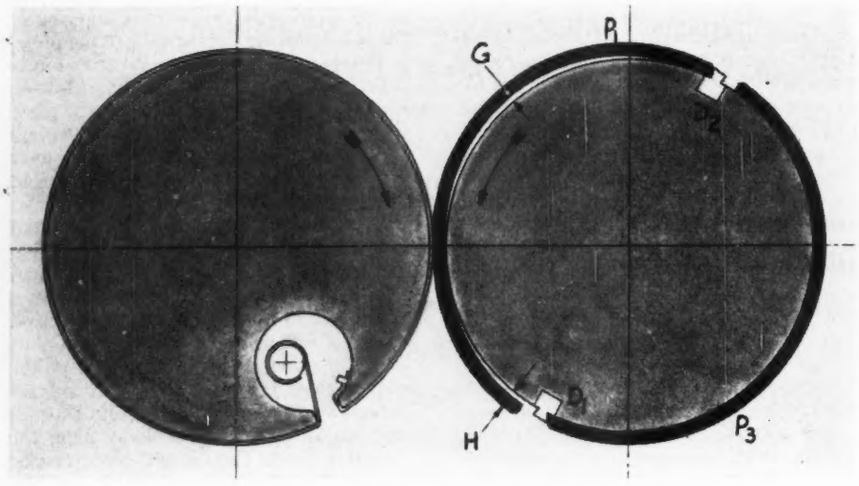


Fig. 2a. — Diagrammatic representation of present type of plate lockup showing plates on cylinders rotated 55 deg. beyond the position shown in Fig. 2.

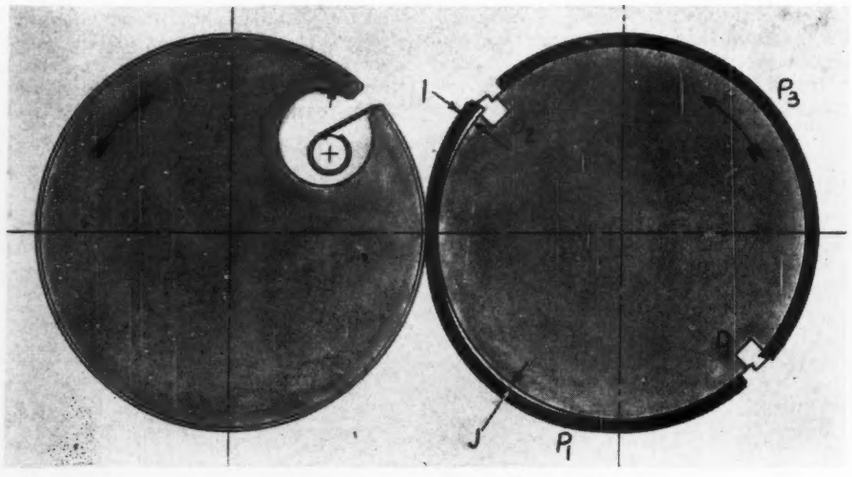


Fig. 2b. — Diagrammatic representation of present type of plate lockup showing plates on cylinder slightly before the trailing edge of the plate arrives at the impression point.

siderably with the various factors which cause it.

Figure 2a shows the plate cylinder rotated in a counter-clockwise direction about 55 deg. from the position shown in Fig. 2. It is, of course, impossible for the leading edge of the plate, which has been forced backwards because of the action described in Fig. 2, to move ahead since the plate is under the action of impression. The clearance between the plate and the plate cylinder is therefore rolled back and is located at approximately the position shown at *G*. The rolling action between the plate and impression cylinders at the same time tends to straighten out the plate as it passes through the impression point, and the leading edge of the plate is therefore slightly raised from the cylinder surface as shown at *H*. That this latter action does occur is definitely shown by the well known fact that plates, which when originally locked onto the cylinder are a snug fit, are loose when unlocked at the end of a run.

Further rotation of the cylinder brings the trailing edge of the plate close to the point of impression, as shown in Fig. 2b. The entire plate has, in effect, been shifted back toward its driving stop by the action described for Figs. 2 and 2a, but since the stop is set rigidly into the cylinder, the trailing edge of the plate cannot move backward, and as the clearance *G* in Fig. 2a approaches the trailing end of the plate, the latter is forced upward as shown in *I* of Fig. 2b and tends to climb the driving stop. If these edges of the plate be examined after a run it will be observed that they are chewed up where they contacted the stop, and in fact, instances have occurred where the stop has been worked into the plate a distance up to $\frac{1}{8}$ in. Other cases frequently occur where the center of the trailing edge has broken out of the plate entirely. Attempts have been made to overcome this tendency of the plate to climb the driving stop by beveling the edges of the plate and the driving stop, or to form an extending lip on the edge of the plate, which is inserted under a lip on the driving stop, but without a great deal of success.

Should the driving stop be removed, the plate will shift backwards around the cylinder a small amount each revolution and will soon be out of register, since the friction of the clamps on the beveled edge is insufficient to prevent plate movement no matter how hard they are set against the plates, and, of course, the harder they are set, the greater the tendency they have to buckle the plates, as previously pointed out and as shown in Fig. 1. Thus the action of the plates, as outlined above, causes the well known creaking sound as the cylinders are turned over and is responsible for practically all of the plate breakage which occurs, as well as a great many of the web breaks in the press, and results in relatively short blanket life as well as poor printing. Because the plates work on the cylinders, causing the clamps to also work in their slots, wear occurs at this point, resulting in refitting with its attendant shutdown time and expense, while at the same time, since the action increases with increases in speed and is therefore more serious, this type of lockup

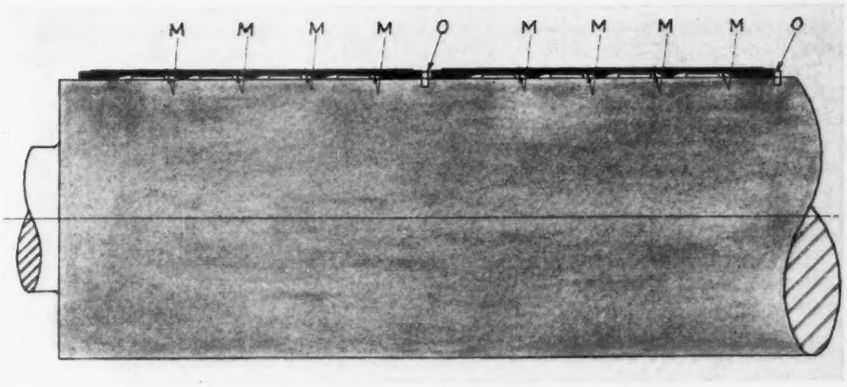


Fig. 3. — This diagram shows how the new Goss tension lockup does not permit plates to bow across the cylinder.

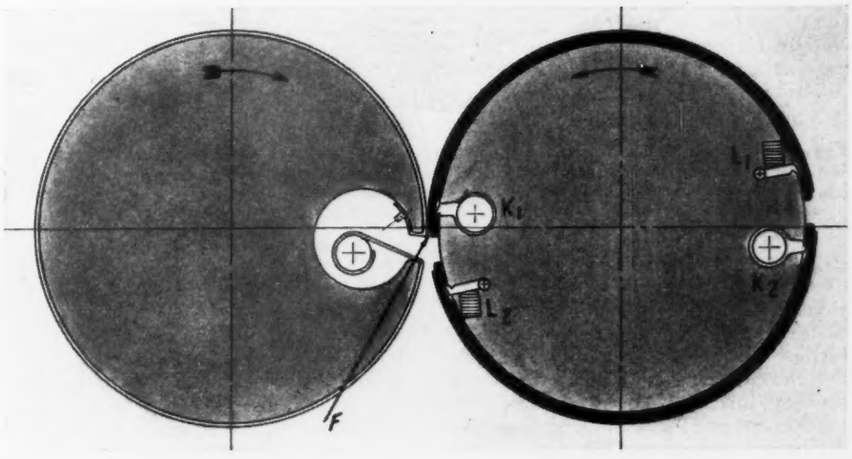


Fig. 4. — Diagram of new Goss tension lockup showing plates on cylinder at the time the leading edge of the plate comes onto impression.

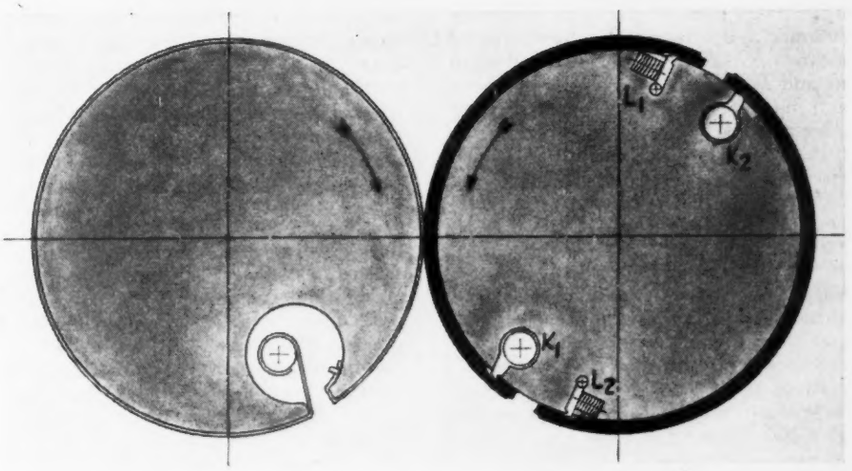


Fig. 4a. — Diagram of new Goss tension lockup showing plates on cylinder with plate and blanket cylinders rotated 55 deg. beyond those shown in Fig. 4.

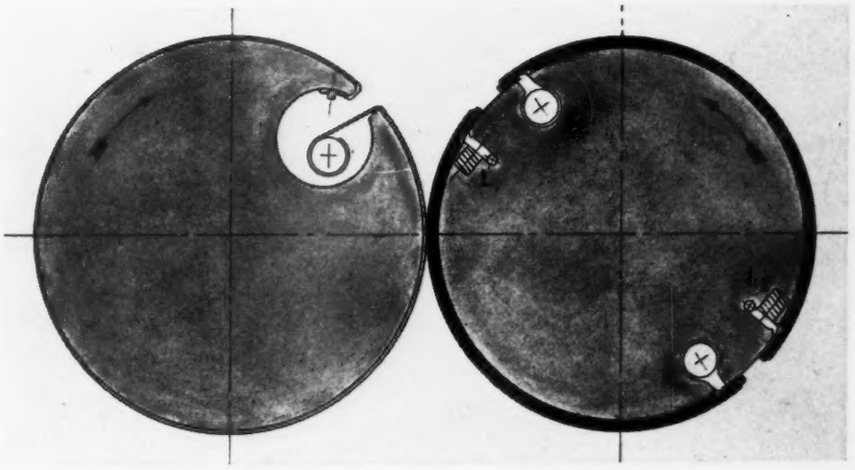


Fig. 4b. — Diagram of new Goss tension lockup showing plates on cylinder slightly before the trailing edge of the plate arrives at the impression point.

Fig. 5. — Photographic reproduction of stereotype plate for Goss tension plate lockup, showing the locking pockets in the under part of the plate near the leading and trailing edges.

is entirely inadequate for high speed operation.

It having been determined that the plate action was as outlined above, further study was given to the matter and the Goss tension plate lockup, which prevents any working or movement of the plates on the cylinders, was developed. This is shown schematically in Figs. 3, 4, 4a and 4b, while Figs. 5 and 6 are actual photographs of the plate and cylinder and illustrate this new type of lockup. As shown in Fig. 4, fixed stops K_1 and K_2, having four fingers per plate and having beveled faces that project slightly above the cylinder surfaces, are provided a short distance back of the leading edges of the plate. The projecting faces of these fingers contact the leading beveled edges of the small pockets M, cast or machined into the bottom surface of the plate. Similar spring-mounted fingers are provided a short distance ahead of the trailing edge of the plate, and these contact the beveled edges in the pockets M_1 which are located in the plate at that point. Springs backing up these fingers are sufficiently strong to take care of all centrifugal forces acting on the plate, which, as can readily be seen, is stretched tightly around the cylinder in tension. There is no tendency, as shown in Fig. 3, to buckle the plates lengthwise of the cylinder, since the plate locking means acts around the cylinder and not lengthwise of it. The plates are located along the cylinder by stops O, against which the plates are set, before locking them up. The plates are readily removed from the cylinder by rotating either the stops K_1 or K_2, Fig. 4, or the fingers L_1 or L_2, backward, by a suitable mechanism until the projecting portions lie below the cylinder surface, and conversely, the plates are locked up by the opposite rotation of the stops or fingers. Provision is made for registering the plates for color printing by adjusting the stops K_1 or K_2 individually for each plate, the springs backing up the fingers L_1 and L_2 taking care of the slight adjustment necessary at this point. The action of the plate under cylinder rotation and impression is illustrated in Figs. 4, 4a and 4b, the position of the plates in these figures corresponding to the plate positions of Figs. 2, 2a and 2b, respectively. It will be observed, referring to Fig. 4, that there can be no tendency of the plate to be forced backwards and off of the cylinder as its leading edge comes onto impression, as was the case in Fig. 2, since the driving stop is located close to the leading edge and prevents that action. The plate therefore remains tight on the cylinder and as it rotates through the positions of Figs. 4a and 4b, it is actually forced down harder on the cylinder and any tendency for it to stretch out as this ironing action takes place, is taken up by the spring-mounted fingers L_1. Any tendency for the plate to straighten out beyond the impression line, as shown at H in Fig. 2a, is prevented by the beveled edges of the stops in K_1 and K_2, Fig. 4 and there can, of course, be no tendency for the trailing edge to climb the back stop. The use of driving stops as shown in Fig. 2, with plates beveled at this point, or with lips extended under the stop, is entirely unnecessary and is, in fact, detrimental because of the extreme accuracy required in the plates. Since there is no working of the plates on the cylinders, the driving stops and fingers are not in constant movement, as is the case of the clips with the standard lockup, and wear of these parts cannot occur.

The Goss Tension Lockup having been designed and built, comparative tests were run to check the relative performance of the old and the new, and several interesting results were obtained. Utilizing a standard high speed unit on which the plates were held by means of the old standard lockup, a run was made without the paper web but with the standard amount of impression, at a speed of 45,000 papers per hr. At the end of 45 min. running time the press was stopped and it was discovered that the top surface of the blanket was completely chewed off and the blankets were unfit for further use. This blanket destruction was caused by the working of the plate on its cylinder, as previously described, and occurred over an area about two-thirds the size of the plate and located from a point near the center of the plate to its trailing edge. This test was repeated and the result was the same. It therefore appears since blankets under actual operating conditions last many times longer than this, that the web of paper acts as a lubricant between the plate and blanket and thus prevents destruction of

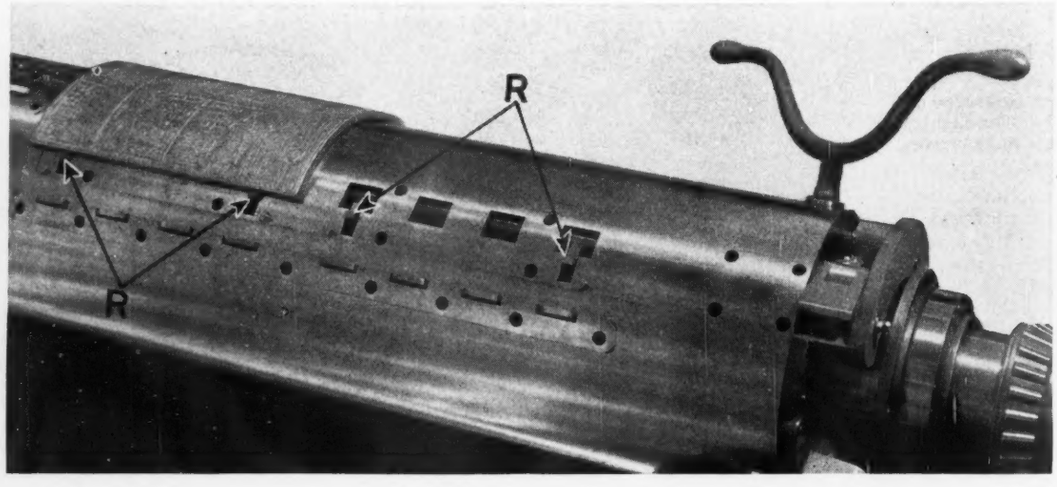


Fig. 6. — Photographic reproduction of Goss tension plate lockup press cylinder with plate in unlocked position and the locking clamps withdrawn below cylinder surface. Note the ejecting fingers *R* on the two end clamps on which the plate rests while in the unlocked position but which loosen plates from the cylinder automatically when the plates are unlocked by the wrench shown at the right end of the cylinder.

the latter. In so doing, however, it is subjected to many undue strains due to the working of the plate, which cause many web breaks which would not otherwise occur.

Similar tests were conducted using the plate cylinder and plates equipped for the tension lockup. At the end of a 45 min. run the unit was stopped and the blankets found to be in perfect condition. The press speed was stepped up and runs have been made at 84,000 papers per hr., 8 hrs. per day for 3 days, and the blankets found to be in perfect condition at the end of the tests. The plates were slightly worn on the surface but good printing could be obtained. As a matter of fact, at the end of this test it was found necessary to pry the plates off of the cylinder. Consequently, ejecting fingers are now provided, which, operating as the clamps are thrown into the cylinder, lift the plate away from the latter and provide for easy plate removal.

The adoption of this system in most newspaper plants can be effected by (1) the replacement of the core member of the casting equipment and (2) the substitution of a special finishing machine for the existing shavers. Plates then can be made having beveled edges and provided with the necessary pockets on the inside, and can therefore be used on equipment arranged with the old standard lockup or with the tension lockup, in the case where new presses having this device are installed in a plant and it is not desired to purchase new cylinders for the old equipment already in the plant.

This device is fully protected by United States patents issued and pending.

Thus, for the first time (so far as the writer is aware) a means is provided which will so hold the printing plates on the cylinder of a printing press that no relative movement of the plate can occur and which will improve the printing quality of the press, increase the life of the blankets, eliminate a great many web breaks and, where necessary, permit the highest speed of press operation.

Floors *in the printing plant*

discussed — Qualities vary with mechanical department — Floors have received careful engineering consideration

By FRANCIS A. WESTBROOK*

*Mechanical Engineer, Benson, Vermont.

EDITOR'S NOTE:

CONSIDERING the inquiries about the materials that go into the construction of buildings for printing plants, we believe that many production and mechanical executives are gathering information on the subject for post-war use. Even though construction is out of the question at the moment because of restrictions, printing plant executives are looking to the future. It is for this reason that the accompanying article by Francis A. Westbrook is being printed now. For those who contemplate new construction or plant expansion we believe it would be a good idea to file this article for future reference.

THE question of proper floorings for the production and mechanical departments of printing plants, as well as for other departments, is so important that various materials have been developed for specific purposes. In other words floorings have received careful engineering consideration by those who manufacture the materials, and it is only reasonable that similar consideration should be given by those responsible for selecting and installing the floors.

Among the more important requirements are economy and quickness in installation, adequate resistance to the normal wear and tear, ease and low cost of maintenance. Floors should also be non-slip and permit of fast trucking, should be non-dusting and non-sparking and provide for foot comfort, quietness, and good appearance.

Obviously, to meet all of these requirements or the major part of them, under different conditions of service, calls for a knowledge of the various available materials and their characteristics. In setting forth some of these considerations, references will be made so far as practicable to the actual practices in specific printing plants.

Maple Strip and Block

Both strip maple flooring and maple blocks are found in printing establishments. The strips may be laid in a herringbone pattern as is shown in Fig. 1, which is a photograph of the composing room of the La Crosse (Wis.) *Tribune* plant. Fig. 2 shows a similar floor in the press-stereotype room. These floors provide extra wear, smoothness, foot comfort, ease of cleaning and so forth.

While on the subject of wood flooring, which of course is used extensively, it is worth while to give attention to some of the general characteristics of this material. Wood floors have some desirable characteristics not possessed in the same degree by other materials. They are resilient and are claimed by some to be less tiring to the workers. They furnish a smooth surface for the operation of handling equipment on wheels and have good heat insulation. There is no abrasive dust from wood and they provide an easy means of fastening machinery firmly in place.

The strength requirements are met by selecting from a variety of sizes from the standard thickness of 25/32 in. for offices and light construction to 2/4 in. plank for heavy service. The latter may be used as the finished floor or as a sub-floor with the 25/32 in. finish on top. Where heavy planks are used as the wearing surface they should be laid with the heart side down to reduce the tendency of the grain to loosen. Generally the 2 in.

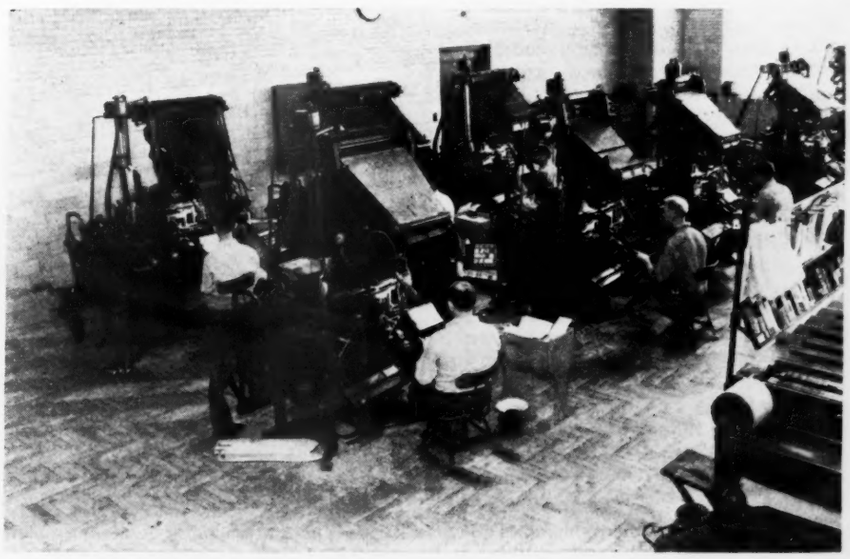


Fig. 1.—Line-composing machine department in composing room of LaCrosse (Wis.) *Tribune*. The flooring consists of northern hard maple strips laid in herringbone pattern.

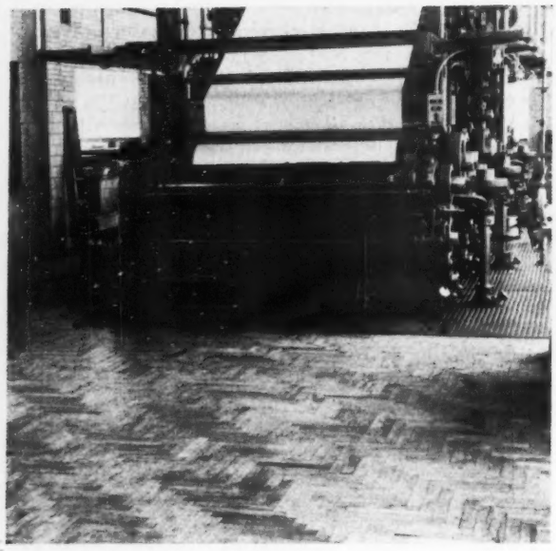


Fig. 2.—Section of press-stereotype room in plant of La Crosse (Wis.) *Tribune*. The flooring is northern hard maple.

and 3 in. planks are tongued and grooved and the 4 in. planks usually are splined.

Proper seasoning of the wood is necessary to provide proper stability. The seasoning should be to a moisture content close to the average under service, and often calls for kiln drying. Of course, the moisture content varies for different parts of the country. Requirements for exceptionally heavy wear are met by the use of blocks with the end grain up.

Hemlock-Fir-Redwood

Maple is not the only wood in use. For instance B & Better Vertical Grain West Coast hemlock meets hard requirements. Douglas fir also has good wearing qualities when properly finished. Both are soft enough to lay tightly. California redwood is among those used for blocks.

Oak Block Flooring

Oak blocks are also used extensively for printing plant floors. Two types of blocks are available, namely, the unit block and the individual slats, built into squares. They are laid on a concrete base and are held in place by a mastic adhesive. This kind of flooring combines the advantages of concrete from the standpoint of fireproof construction and the desirability of a wooden floor as a means of providing good working conditions. Experience has shown them to be of great durability. Wood blocks applied directly to concrete eliminate screeds and subflooring which in many cases is not successful for heavy printing machinery. The latter cannot, of course, be placed directly on the block but there can be built around the base of each machine without undue difficulty and floor maintenance is reduced to a minimum.

It is necessary to prepare the concrete base carefully to secure a proper bearing surface which is smooth and even before the mastic is applied. The concrete must be clean, and an asphalt primer applied before the mastic. If the concrete slab is directly on the ground or where there is danger of dampness it is desirable to cover it with from one to five layers of asphalt saturated felt, depending on the severity of the conditions. Fig. 3 shows a cross-section of this type of flooring. This diagram will also indicate why it is of first importance to have the foundation for the block type of floor right, if the job as a whole is to be satisfactory. Specifications are available from the up-to-date flooring manufacturers which cover various kinds of subfloors, including the use of wood.

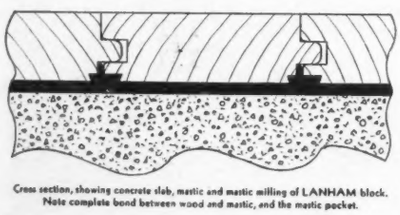

Cross section, showing concrete slab, mastic and mastic milling of LANHAM block.
Note complete bond between wood and mastic, and the mastic pocket.

Fig. 3.—Cross-section diagram shows concrete slab, mastic and mastic milling of Lanham block. The design permits complete bond of wood and mastic and the mastic pocket.

Oil Preservative Wood Block

Another type of wood floor used in numerous printing plants is the wood block treated with preservatives. The individual wood blocks are treated under pressure with an oil. The strip wood block flooring is treated with a colorless penetrating varnish, or may remain untreated until after installation. Yellow pine is the wood used for this, and end grain flexible strips are used for the strip type of block.

The makers of these types of flooring recommend the individual blocks for heavy service. They are made with two lugs on one side and one lug on one end protruding about 1/16 in. and are an integral part of the wood, extending the full depth of the block with the grain. They are designed for laying on a concrete base and after being laid the surface is flushed with a pitch filler, followed by a second application of filler which is carefully rubbed into the joints so as to make a smooth surface. Finally the filler may be buffed and polished, if desired, or it may be given a coat of sealing material which gives a bright, ebony finish. If the smell of creosote oil for the original treatment of the blocks is objectionable a different type of odorless preservative oil may be used, which is applied under pressure so as to leave in the wood 6 lbs. of oil per cubic foot. This insures tightness of the blocks and a clean, water and oil-proof surface.

Pine Strip Wood Blocks

Strip wood blocks are made of kiln dried Southern yellow pine or fir and are bound together in strips with metal trusses and laid with metal splines. This type is used in numerous printing plants. The construction is shown in Fig. 4. The flexible strips may be from 2 to 8 ft. long and about 3½ ins. wide. The flexible feature permits the strips to conform to the contour of the base. Top and bottom

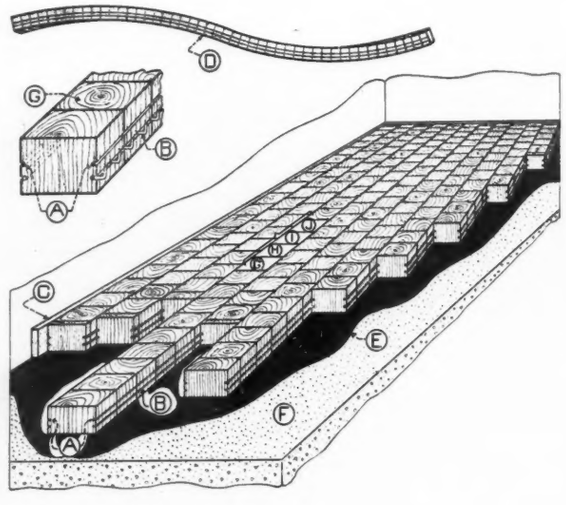


Fig. 4.—Perspective diagram illustrates construction of Jennison-Wright Kreolite Flexible Strip End Grain Wood Block Floor.

At *A* is shown the metal wire truss binding the individual strip wood blocks into a monolithic end-grain plank or strip.

At *B* is the metal spline binding the individual strips together.

C is the cork expansion joint laid flush with the surface of the floor.

D indicates that because of its flexibility this flooring can be laid over wood subfloors in mill-type buildings.

E is the waterproof membrane between concrete and strips.

F shows the smooth finish concrete foundation.

The block at *G* shows the surface sanded smooth.

H—This particular floor block is manufactured from properly dried yellow pine or redwood.

I—The blocks are treated with colorless waterproofing preservative to maintain the natural light color of the wood.

J—The blocks are laid with the tough end grain up.

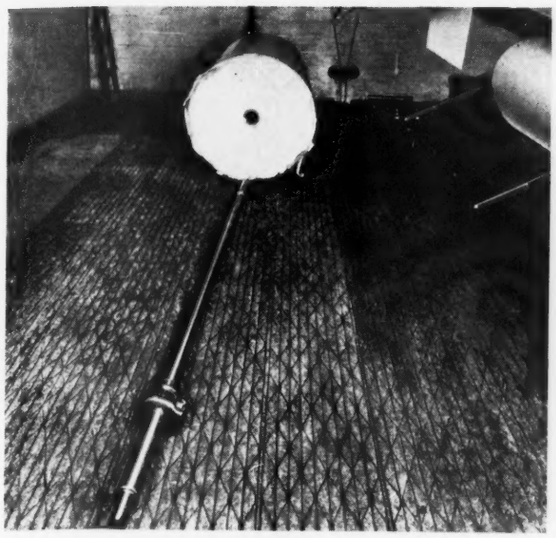


Fig. 5.—In a Minneapolis newspaper plant, the Irving Continuity Armouring is used. It is embedded in the upper surface of concrete aisles, driveways and unloading platforms. This type of flooring can take the heavy use from severe traffic conditions or the dropping of heavy materials.

surfaces show the end grain. The assembled strips are treated with a sealing preservative at the plant to protect them against absorbing moisture. Preparation of the concrete base is essentially similar to that already described. The strips are laid so as to interlock adjoining strips with tight-fitting galvanized steel splines which overlap across the end joints. A final penetrating coating of sealing filler is applied and rubbed in with an applicator of lamb's wool.

Continuity Armoring Floor

An ir teresting type of flooring is that known as the continuity armoring. This is embedded in the upper surface of concrete aisles, driveways and ur loading platforms. It presents at all times a durable, long-lasting, shock-proof, crack-proof floor to take abuse from severe traffic or the dropping of heavy materials. Fig. 5 shows typical application in a Minneapolis newspaper plant.

Open work gratings are also used for steps for stairways, for walkways and for heavy duty floors. In some cases, the grating has been used for storage racks. The Curtis Publishing Company of Philadelphia and the Mack Printing Company of Easton, Pa., are among those who have used this type of flooring for some or all of these purposes.

Hardened Concrete Floors

In those cases where a concrete floor is desired there is on the market a hardening agent to harden the whole mass which is followed by the application of a surface hardener. By this double treatment the whole floor is hardened, porosity reduced and the penetration of oil. ink and acids greatly reduced. The strength is also much increased above that of concrete laid in the ordinary way. The surface treatment coats the softer particles which rise to the surface of the base as it is trowelled so that the top is as hard as the rest of the floor, or harder.

Each Floor An Individual Problem

The important, and always present, engineering consideration that in recommending a type of floor for a printing plant it must be borne in mind that each job must be treated as an individual problem is brought out by one of the largest manufacturers of flooring material (Stonehard). That is, the same recommendations will not hold good for all plants. This is due not only to varieties of equipment and its arrangement, but to general construction. In a printing establishment, in general, the size and production will have some bearing on the floor traffic. In some plants the floors are allowed to become very oily, and in others the floors are practically free from oil. In some operations considerable printers' ink comes into contact with floor; in other establishments no ink of any consequence is allowed to reach the floor. In some plants there are pans under the machinery to catch the oil and ink. Such protection is, of course, advantageous no matter what kind of flooring is used, but these practical local considerations explain why it is so desirable to consider each installation on the basis of the local conditions.

Gratings

The advantages of the grating type of flooring may be summed up briefly as follows: Being open, it permits of good ventilation and being of steel it cannot absorb liquids, does not accumulate dirt, is fireproof and easy to keep clean. The surface is non-slip and at the same time provides for easy walking and wheeling. Of course it is mainly applicable to those plants having large machinery and heavy items to handle.

Mastic Flooring

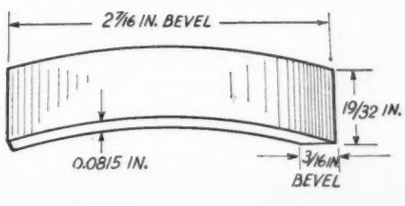
Another type of flooring material which is used in many of the largest newspaper and printing plants consists of a mastic resurfacing compound. This used in conjunction with a flexible steel grid which makes it possible to place the mastic surfacer over either a concrete or wood base with a minimum thickness. The only requirement to be met is the thickness of the grid which is $\frac{5}{8}$ in. In this way a surface is obtained with a wearing surface which will withstand hard use and abuse from heavy and light trucks, and at the same time will not be noisy. It is also fireproof, waterproof, non-skid and easy to stand and walk on, as well as sound-deadening.

Auxiliary Filling Piece for Chute Rail Block

By OSCAR CARLSON*

**Machinist, Cheboygan (Mich.)* Daily Tribune.

IF IT IS necessary for the machinist to use Linotype assembler chute rail springs D558-D559 in combination with rails D15-D16, it may be found that the operator will have trouble with thin matrices catching underneath the rail springs.



To overcome this condition in an emergency, a brass filler piece was designed as shown in the accompanying illustration. The dimensions are self-explanatory and need not be described further.

First, the front and back rail springs are discarded. Then the $\frac{3}{16}$ in. beveled part at one end of the filler piece is positioned between the rails so that it will just clear the matrix delivery belt.

When applying the filler piece, hold it with fingers in correct position and tighten D17, assembler chute screw which holds the parts together. The filler piece will then retain its adjusted position.

Static Electricity *in the printing industries—Theory of static electricity—Static collection in the pressroom—Neutralizing*

By COMMITTEE ON STATIC ELECTRICITY*

*National Fire Protection Association, Inc., Boston, Mass. Abstract from Committee's report, published 1941.

THE term "Static" is used in its commonly accepted meaning, namely, the type of electrical charge resulting from separation of materials, friction or similar cause and particularly where it constitutes a fire or explosion hazard.

The generation of static can neither be prevented nor is it practicable to attempt to do so. Its generation is not in itself a hazard. The hazard appears when static accumulates to the extent that a spark discharge may occur. Where such a spark discharge occurs in accumulations of flammable materials, it may cause a fire or explosion. Eliminating the static hazard therefore calls for preventing its accumulation rather than its generation. Humidification, grounding and neutralizing prevents the accumulation, but in no way prevents the generation of static.

Experience has shown that static is a more acute hazard in the winter than in the summer months. In winter the relative humidity indoors is low, which tends to dry all surfaces and make them poor conductors. Consequently, the static which is generated accumulates on the generating surfaces until the potential is high enough to break down the intervening air gap with a resultant spark.

In summer, however, the relative humidity is high and, as a result, all surfaces are usually covered with an invisible film of moisture which makes them relatively good conductors. This principle is used in certain industries to decrease the static hazard by intentionally increasing the relative humidity of the surrounding air.

Humidification is probably the most positive means of preventing accumulations of static electricity but, in some cases, may not be feasible. Therefore, more dependence is generally placed on grounding.

Theory of Static Electricity

Static electricity is commonly believed to be generated only by friction, and its original name, "frictional electricity," is still used to some extent. Experiments, however, have proven that static is generated not only by friction, but also by the bringing together and separating of unlike substances.

Printing and Lithographing

IN the printing and lithographing industries, the problem of static electricity not only presents a serious fire hazard, but also is one of the major problems in production. There appear to be more methods of producing and more troublesome effects of static in these industries than in any others.

Paper

The character of the paper surface has a great deal to do with the amount of static generated—the rougher surfaced papers generating more than the smooth calendered type. This, however, is somewhat offset by the fact that the calendering operation itself is a source of static generation, which, added to the static generated by the paper passing through the air, often results in the highly polished calendered paper having a higher charge than the rougher surfaced paper. Of course, a great deal of static is generated by the paper running through the presses. The character of the paper surface determines its hydroscopic quality to some extent, and these qualities have a distinct bearing on the generation of static by the paper. The more water content in a paper, the less will be the amount of static generated. This quality is strikingly shown by the difficulty in handling moisture-proof cellulose acetate sheets.

There are several ways in which static may be decreased in these industries. When the paper is received from the mill it very often contains large quantities of static. If allowed to hang in the press room, in bunches of a few sheets, from metal racks, slightly separated to allow air at room temperature to pass thor-

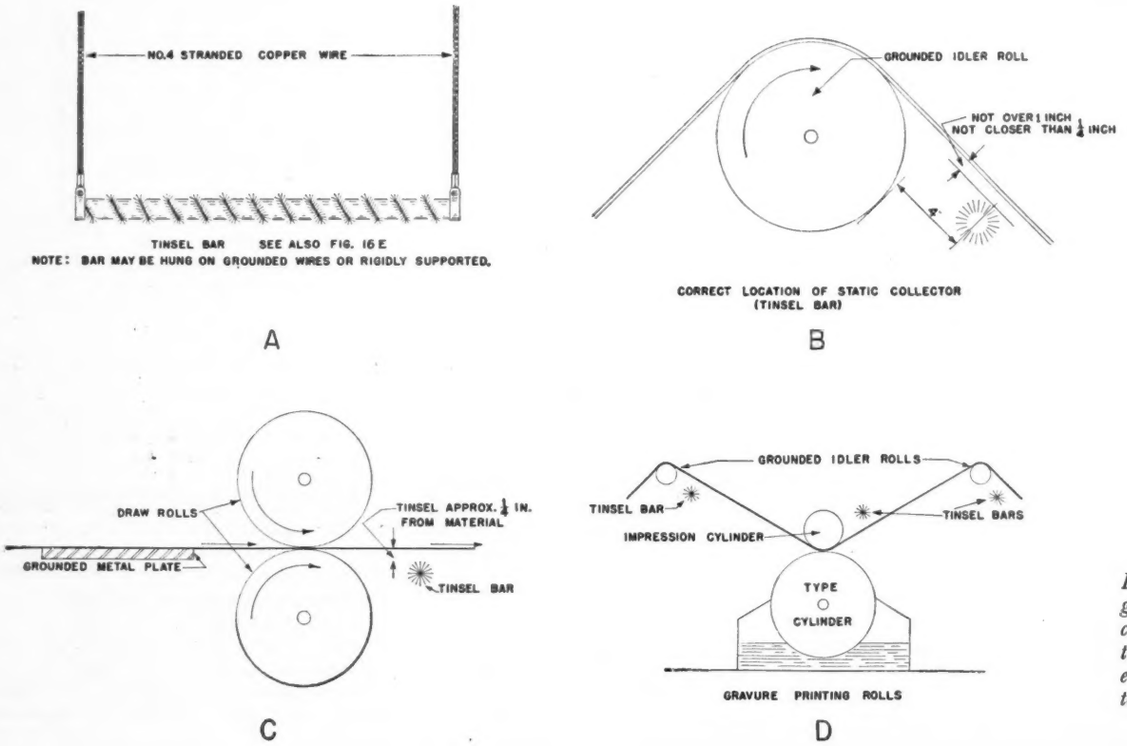


Fig. 1 — Diagrams showing construction of tinsel bar and several applications to printing presses.

oughly through it for at least 24 hours, the static accumulation will be greatly decreased.

Paper brought into a warm building from a cold atmosphere will usually contain a moderate charge, which is no doubt due to the exposure to low temperature air of low humidity.

If paper is aged or conditioned after being received, and before printing, so that it contains not less than 3% moisture, it will be freer of static.

Inks

Ordinary inks used in the printing industry contain only slightly volatile liquids and therefore may not be ignited by static discharges. The trend towards higher speed printing, has resulted in the introduction of inks with faster drying properties. The mixing and agitation of highly combustible inks with a metal spatula in the open reservoirs or fountains of presses may result in generating a static charge sufficient to discharge a spark from the metal spatula to the metal press sufficient to ignite inks. A non-metallic spatula or wooden paddle should be used.

Presses

The most generally applicable method of removing static electricity from presses is by grounding. Grounding the framework is frequently not sufficient protection against static. The metal rolls also should be grounded.

Static collectors are commonly used in close proximity to the paper as described under the sub-head "Static Collection from Sheet Material." When tinsel bars are used it is necessary to replace tinsel when it is mechanically damaged or badly oxidized. On presses using a paraffin spray the tinsel should be replaced when it becomes coated with wax.

The amount of moisture required and the method of introducing it in the air differ somewhat with the paper being run and local pressroom conditions. Usually a range from 45% to 60% relative humidity is found most practical. In plants with ventilating systems the humidification problem is comparatively simple; in others the moisture is introduced most easily by means of escaping steam. In addition to controlling static, the proper humidification of pressrooms is an aid to the oxidization of the inks.

In addition to the above mentioned methods of controlling static the most common device used on presses is the open gas flame. This of course can only be used on presses using inks of low volatility. In some cases electric strip heaters are used instead of the open gas flame. The heater or open flame is placed across the press at the delivery end so as to allow the paper to pass through the flame quickly or very close to the heater. In every case where a gas flame is used for static elimination on printing presses, an automatic cut-off should be used. It is necessary to make sure that the pilot of the burner cannot touch the edge of the paper.

The electric neutralizer is used frequently for the elimination of static on all presses, but more particularly on rotary type presses. The electric neutralizer should not be used in areas where flammable vapors may be present. The tendency toward more speed has developed the enclosed ink fountain which obviously makes for a much safer press. The elimination of the flammable vapors by proper local ventilation is probably the best solution to eliminating fires on these presses. Conditioned air is conducted to the presses and exhaust taken from the paper as it passes from the printing cylinder; this not only assists in the rapid drying, but keeps the vapors below the lower flammable limits.

Presses of slower speeds do not present the static problems from the fire standpoint contained in the higher speed presses. Inks used on flat bed presses are nearly always of low volatility. However, the static electricity problem from the production standpoint still exists. This type of press using individual sheet paper, is used for multicolor work where frequently it is necessary to run work through two or more presses. The problem of exact register as well as satisfactory delivery of the individual sheets from the fly is affected by static built-up in the printing. Even releasing the sheet from the tympan is sometimes difficult. One of the more satisfactory treatments for adhesion to the tympan is the use of glycerine and acetic acid to dampen it.

In the rotogravure press the ink is thinned with a large percentage of naphtha, or similar low flash point liquid. At high speed, the presses under certain conditions develop strong charges of static, which, if not properly removed, produce sparks, which may ignite the naphtha vapors over the ink fountains. On rotogravure presses, the static electricity becomes a very serious fire hazard. The entire press is frequently enveloped in a flammable or explosive atmosphere, unless particular ventilation has been provided. The construction of the press itself is an ideal static generator. A rubber roll is pressed with as much as four tons pressure against a copper etched roll, which revolves in a heavy volatile ink, and the paper is held between the two rolls. Usually by reducing the friction of the bearings on the cylinder and on the roll, a marked reduction in static results; also the angle at which the paper enters between the rolls effects the static; reducing the contact with each roll to a minimum reduces the charge developed. Static discharges have frequently caused fires when the rubber roll is allowed to rest on the copper cylinder while the press is not in motion, and the press is started.

Bronze static brushes or tinsel should be installed in as close proximity to the paper, and as near the intake and delivery side of the impression rolls as practicable, extending the brushes or tinsel across the entire width of the press, and arranging them to be easily removed for cleaning. It is also important, in order to control static on this type of press, to ground the frame and to relieve the drag between the rubber roll and the printing cylinder.

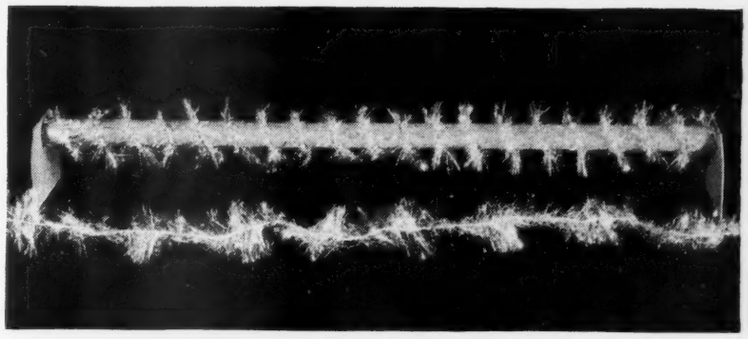


Fig. 2—Photographic view of tinsel bar shown in diagram form Fig. 1. Tinsel is wound on a wooden or other non-conducting rod. Tinsel is clambed at both ends by a copper clamp connected to a ground wire. The bar may be suspended directly from two ground wires or may be rigidly supported.

Static Collection from Sheet Materials

Sheet materials, while in actual contact with the grounded metal rolls or guide plates do not often create a static hazard as the electrical charges are bound by the induced charges in the metal rolls or plates. This action also prevents the removal of a static charge from any material in contact with a metal roll or plate by a static collector on the exposed side of the material. For this reason, static collectors, in order to be effective, should be located about 4 in. to 6 in. away from the point where the sheet material separates from the metal roll or guide plate. This location of the static collector is also correct for sheet material passing over a non-conducting roll.

If a static collector is not provided at this point the material separating from the rollers results in a free charge on the sheet material which sets up an electrostatic field which may lead to static discharge to nearby objects or over the surface of the sheet material. To prevent this discharge, static collectors in the form of tinsel bars, Fig. 1, or rows of needle points, are placed near the sheet to ionize the air in proportion to the intensity of this electro-static field. The ionized air serves to neutralize the charge on the sheet to a point below the sparking level.

Needle points, or tinsel, are less effective when in actual contact with the sheet material than when separated by a short distance. Static collectors should not be placed directly opposite each other. If it is desired to remove static from both sides of a sheet, the static collectors should be some distance apart. In the past chains, grounded plates, brushes and similar devices have been placed in actual contact with the sheet material. Such devices are not effective and the most effective method is the tinsel bar, as shown in Figs. 1 and 2.

While strings of tinsel may be used, the sagging of the string permits the tinsel to drag and to be easily blown out of place by drafts. Much better protection is afforded by winding the tinsel on a wooden dowel. A wooden or other nonconducting rod for this purpose has been found more effective than a metal rod. The tinsel is clamped at both ends of the rod by a copper clamp connected to a ground wire. The bar may be suspended directly from two ground wires, as in Fig. 1A, or may be rigidly supported.

It is possible to use closely spaced needle points such as phonograph needles spaced ¾ in. apart and ½ in. from the material or bronze brushes but this has been found less convenient than tinsel. For special purposes tinsel may be made of various metals, including copper and bronze.

The construction of a tinsel bar is shown in Fig. 1A and a photograph of such a bar in Fig. 1C. The correct location of a static collector or tinsel bar in relation to sheet material and roller is shown in Fig. 1B. The location of a tinsel bar in relation to draw rolls where sheet material is drawn over a grounded metal plate is shown in Fig. 1C.

The location of static collectors for a type of machine that is used for rotogravure printing and similar applications of solvent thinned materials is shown in Fig. 1D.

Equipment

With metal equipment the problem is principally one of electrically interconnecting all of the metal parts and grounding them. Because metal parts of equipment are in contact with each other does not necessarily mean that they are electrically connected. Paint, rust, corrosion or merely light contact will often introduce high resistance. For a continuous electrical path, the metal parts must be clean and bright, free from paint, rust, or oil, and must be held securely in contact with substantial bolts, by brazing, or otherwise. All metal parts in or near locations where static may be generated should be electrically interconnected to prevent any condenser effect. Copper ground straps or tape is sometimes preferable to solid or stranded wire for connecting together metal parts. Ground straps or wires should be run in full view so that they may be readily seen to detect any evidences of breakage or damage.

In rubber spreaders, coating machines, printing presses, cotton gins, threshing machines, cotton, wool, or silk looms, etc., special treatment is required. All metal parts should be electrically connected to each other and to ground. Some equipment is so large, that several connections from the equipment to ground must be provided.

Neutralizing

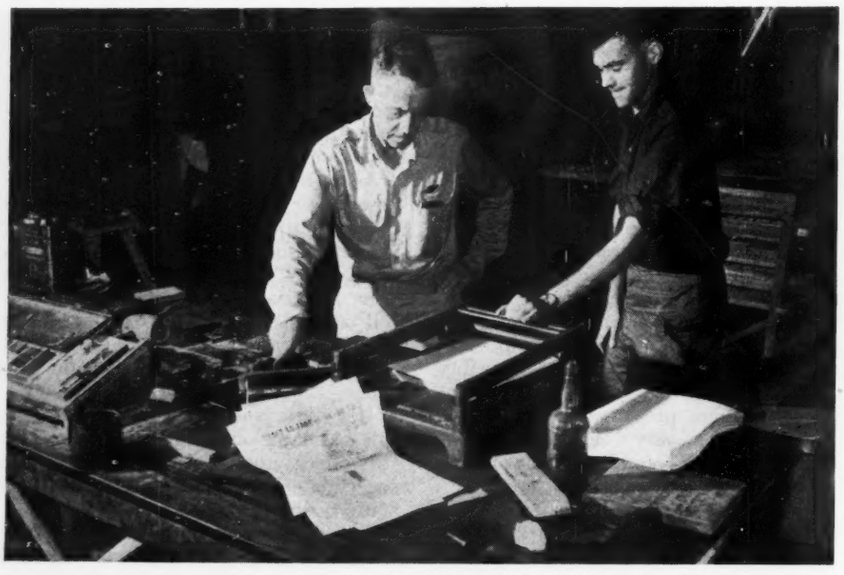
The electrical neutralizer is an effective method of removing static charges from materials like cotton, wool, silk or paper in process of manufacture or printing. It produces an ionized atmosphere in contact with the charged surfaces. The charges are thereby carried away to some grounded conductor.

The most practical method of producing this ionization is by the use of pointed conductors connected either directly or inductively with an alternating current transformer delivering several thousand volts from one terminal of its secondary coil while the other terminal is grounded. When the direct method of connection is used the static charge is conducted back through the secondary coil to the ground connection at its inside terminal. When the inductive method of connection is used the static charge is conveyed by the ionized atmosphere to a grounded conductor provided in the vicinity of the points which produce the ionization. The inductive method of connection is the one most generally used since the inductive capacity can be so easily adapted to specific cases.

This principle consists in maintaining an alternating, or positive and negative, field of from 10,000 to 15,000 v. through which the electrified material is made to pass. In the passing, any charge in the material, whether positive or negative, is instantly neutralized by opposite charges in the field. The voltage is built up by a transformer of low capacity which limits the current to 1/100 amp. or less. One terminal of the secondary coil is connected to ground, the other to a well-insulated cable leading to the various machines. At those points a connection is made through flexible cable and removable socket, to one or more "inductor bars" which distribute the charge over the surface of the material to be treated.

When direct current only is available, an inverted rotary converter or alternator of ½ h.p. capacity, is necessary to change the direct current to alternating current which is then stepped up through a transformer to the required secondary voltage.

The electric neutralizer has been listed by the Underwriters' Laboratories, Inc., as suitable for use in woolen, silk, cotton and paper mills, printing offices, etc., and is widely used in these industries. It should not be used where flammable vapors or gases may be present.



(Acme Photo by Tom Shafer, Acme War Correspondent)

Leyte—Using hand-operated Filipino press and captured Japanese rice paper, the Chicago *Tribune* edition, a weekly 12 page paper contains news and *Tribune* features. The *Overseas Tribune* previously was published in New York for troops in Europe; Panama, Hawaii and Sydney (Australia) for troops in the Pacific. In this photo are shown (left to right) Nixson Denton, war correspondent for the Cincinnati *Times-Star,* lending a helping hand to Arthur Veysey, Chicago Tribune war correspondent, in printing the first *Tribune* Overseas edition in the Philippines.

Engineering Survey Reports

J. J. Berliner & Staff, technical research and counsel, have published a 16 page, letterhead size bulletin, entitled *Engineering Survey Reports*. In the bulletin are presented brief summaries of various reports prepared by this organization. The survey reports themselves are culled from thousands of technical and industrial publications, special studies, findings and research reports from all types of technical societies, scientific organizations and laboratories in the engineering field. A considerable cross-section of the engineering, metallurgical, machinery, heating, automotive, aviation and petroleum fields are covered. The bulletin may be obtained gratis by addressing your request to the above company at 212 Fifth Ave., New York 10, New York.

Unorthodox Methods successfully used by Chicago firm in producing photo-engravings — Plastic and rubber plate technique discussed.

GRADIE OAKES
President, Process Color Plate Co.

"Printing Plates — Photo-engraved and Plastic", was the title of an address delivered by Gradie Oakes before the Cleveland Craftsman's Club in February. Mr. Oakes is president of Process Color Plate Co., Chicago. The firm is engaged in producing rubber, plastic, photo-engraved and offset-lith printing plates.

Mr. Oakes opened his address by stating that the photo-engraving part of the business was started 14 years ago.

Said he: "We do many unorthodox things in our plant. Not knowing too much about photo-engraving at first we of course did not have set ways or old methods embedded in our minds to hinder us. We would try any and all new ways to produce photo-engravings at faster speed and to secure better quality.

"Most engravers would smile when a different method was suggested, and would say it couldn't be done. When asked if they had tried it, they said 'No', but claimed it was unorthodox. Well, I can say that many of our experiments proved successful.

"By using a negative registering device on the back of the camera," he related, "the registering of 4-color process plates is made simpler and more accurate. Also we have developed a copy masking method that has greatly improved the quality of color separation negatives, cutting out the hard lines and leaving softer blended tones.

"By flush-mounting engravings on wood or metal base, using a cement that we have developed instead of the usual tacks or nails, we are able to make all of our halftone engravings on lighter gage metal. This means we get twice the amount of engravings from the metal alloted to us.

"We chop all of our halftone cuts on the guillotine instead of the usual trimmer. The blade of the guillotine lightly depresses the edges of the halftone as it cuts, producing a desirable soft edge in printing. A man can trim more cuts on the guillotine than on the regular trimmer. We have never had any cuts come off after they have been cemented on the bases."

Plastic Plates

"Due to their light weight thermoplastic plates are being used successfully by the overseas armed forces for printing. Their production is fairly simple and much less expensive because the printing surface is complete directly after the molding process as against electrotypes needing a finishing process.

"Plastic plates can be curved for use on cylinder presses directly after the 2 min. hot molding. They cannot be beveled or cut in the conventional way because the heat generated by the ordinary cutting tools causes the plate to weld together behind the tool such as a jig saw. A bandsaw must be used to cut. Another advantage of plastic plates is the possibility of placing them back in the mold, after they start to show wear, to remold and sharpen the image for a rerun. There is no more wear on a plastic plate than on an electrotype.

Rubber Plates

"The rubber plate idea, of course, is not new. Rubber plates were used in the middle of the 19th century by Goodyear. In making rubber plates, the form is put in a steam-heated press. A sheet of thermosetting bakelite is placed on top of the form and pressed until it is molded. After the bakelite mold is hardened, it is placed in the steam-heated press and several sheets of rubber are placed on top of it. Using little pressure and heat, the rubber is molded and then cooled. The plate is then mounted on a base. Rubber plates will run many hundred thousand impressions. In case of a "jam-up" on the press there is little if any damage done to the press because the rubber "gives" first. Rubber plates are used in bag, corrugated box, cellophane and many other kinds of printing. The possibilities of rubber plates have not been reached and should not be overlooked by the printer."

Conferences Cancelled

Two additional mechanical conferences have been cancelled. They were cancelled in cooperation with the government's request to cancel meetings at which the attendance would be more than 50 persons.

On Feb. 21, the Board of Directors of the American Newspaper Publishers' Association announced cancellation of the 18th ANPA Mechanical Conference which was to have been held in Chicago on June 11, 12 and 13. If war conditions permit the conference will be held in 1946 in Chicago.

Iowa Conference Off

Val Wells, president of the Iowa Daily Newspaper Mechanical Conference, has announced cancellation of the 1945 Conference which was scheduled to be held in Des Moines on May 19 and 20. No announcement has been made relative to a future date for holding the meeting.

Mobile Stock and Repair Cart

TO save steps in material and tool handling to and from plant repair departments, stockrooms and shipping departments, Lyon Metal Products, Inc., has announced a stock handling cart.

View of Lyon Mobile Stock and Repair Cart. In addition to its obvious uses in shipping and stock rooms, it can be utilized as a repair cart where a number of tools must be carried to a machine.

The cart shown in the accompanying illustration is 30 in. long, 16 in. wide and 32 in. high. An extra center tray can be supplied. The desk accessory is 16 in. wide and 14 in. deep with a 5 deg. slope. This cart is finished in green baked enamel.

Additional information may be obtained by writing directly to Lyon Metal Products, Inc., or to *Printing Equipment Engineer*.

Porter *discusses growth of offset-lithography during the war — Says there will be two postwar periods — Prices for Graphic Arts machinery will be higher in postwar period*

By H. A. PORTER*

**Vice President, Harris-Seybold-Potter Co. Abstract of address delivered before Newark (N.J.) Club of Printing House Craftsmen, December 1944.*

THERE has been a tremendous increase in the production of books by offset during the war period. Millions of books are produced by this method monthly and sent overseas. Application of maps during the war has been tremendous; tons and tons of maps are shipped overseas and are as essential as guns for every major operation.

Time magazine now has 20 editions—more than half of them produced by lithography. The first was the South American edition produced by lithography and flown to South America. The first issue was in May, 1941.

There are school editions and pony editions. Some of the editions are without advertising; in some instances copy is furnished in the form of film positives that are flown great distances and then produced by offset-lithography.

Newsweek also has both a miniature and full-size edition; the miniature edition is without advertising and is for the armed forces. In this way a 112-page issue is reduced to 36 pages with self cover.

London Daily Mail is produced in New York, N. Y.; it is reduced to microfilm, flown across the Atlantic and then blown up and reproduced by offset-lithography in a miniature edition. This has been done for nearly a year.

Some of our newspapers are now produced in miniature by lithography and are available for sending to members of the armed forces.

In our opinion, definitely there will be two post-war periods—the immediate, and the long-range programs. In early post-war, peacetime order must replace wartime dislocation. Some of the pent-up demands will be met by products with which markets are already familiar; some will be served by improved equipment. It is only reasonable to expect that improvements will be incorporated in postwar machinery. How soon they will arrive is perhaps problematical. Industry will require time to make commercially practical, the knowledge acquired during the war. There has been a great deal learned in the past three years, but it must be applied successfully to a peacetime economy.

What we are endeavoring to do, is to face the facts squarely. We do not want to be stampeded by the hysteria of a wartime psychology in respect to the equipment of the future. I think it is difficult for all manufacturers of Graphic Arts machinery to properly evaluate some things because we are still governed by regulations. I would not say that we are confused, but all of us have been so intent on the problems of producing equipment for the war effort that we have quit guessing as to when the war will end. It will be our endeavor to take conditions in our stride when the time comes.

SHOULD BE SCRAPPED

Practically no equipment has been available for commercial plants for three years. Equipment in these plants has had hard usage. Unquestionably hopelessly obsolete equipment that now has value, in this present market, will be practically worthless postwar and should be scrapped rather than kept in service when more efficient machinery is available. — H. A. Porter before the Newark (N.J.) Craftsmen's Club, December 1944.

I think everyone recognizes that those of us who have built some equipment for the Government during the war, had to build this equipment at the price levels of October 1, 1941. Increases in cost make impossible any profit at these figures. So naturally, prices for new Graphic Arts machinery will have to be higher in the postwar period. It is not for us to attempt to say how much. Those of us who went through the reconstruction period following the last war, know that increases were as high as 40% for the same equipment based on prices quoted in 1918 and 1919 as compared to the prices that were finally quoted in approximately 1921.

The automotive industry says frankly that an increase of 25% to 30% will be necessary for postwar cars. We all hope for some relief from the Office of Price Administration when we are again permitted to resume civilian manufacture.

In regard to terms and conditions of sale, I doubt if there will be anything radically different than existed prewar. I think that all of us will find there will be many more purchases made on a cash basis than previously. Our terms, we have felt, have followed a conservative policy and have been a constructive force and a stabilizing influence. They act as a healthy control against possible unwarranted over-expansion. We see no reason for any radical changes postwar in this connection.

Many people have talked with reference to surplus government - owned equipment. I think it is the bugaboo that, in the Graphic Arts industry, will be of little importance. In our own case, we have shipped very little in dollar volume to the Government in a three-year period, and in many instances this equipment has been special. In other instances it has gone overseas. I think our experience parallels and is typical of that of other Graphic Arts machinery concerns.

The world moves on printing—and offset is a growing, vital force. It will show to an increased degree, real growth postwar. I repeat my prediction that offset-lithography is destined to be a half-billion dollar business postwar.

Research Programs in the Graphic Arts

American Newspaper Publishers Association—Board of Directors authorized institution of research program on the mechanical production of Newspapers in November 1944. Program will extend over at least a five-year period with expenditure of minimum of $175,000. Supervision tentatively in the hands of the ANPA Mechanical Committee. Full-time director of research to be employed. A. H. Burns, Chairman of the ANPA Mechanical Committee, c/o *Herald Tribune*, 230 W. 41st St., New York 18, N. Y.

Lithographic Technical Foundation — Wade E. Griswold, Foundation Director, 220 East 42nd St., New York 17, N. Y. Foundation recently has been engaged in raising $750,000 to finance continuing lithographic research. A number of projects under way at Armour Research Foundation and at the Foundation's Laboratory in Cincinnati.

Photo-engraving Research—Of recent activity is the group of Southeastern photo-engravers who want to establish photo-engraving research. The organizers hope to include all photo-engravers on a national basis. Address: Photo-Engravers' Research, Inc., P. O. Box 1099, Savannah, Ga.

Printing and Allied Trades Research Association—G. I. Riddell, Ph.D., F.R.I.C., Director of Research and Secretary. Charterhouse Chamber, Charterhouse Square, London, E.C.1, London, England. Consists of two divisions, Printing and Packaging. As of March 1, 1943, 596 firms comprised the membership. Total income of the Association was almost £23,000.

Printing Plates Research, Inc.—J. Homer Winkler, Secretary-Treasurer, c/o Battelle Memorial Institute, Columbus 1, Ohio. Organization consists of 18 plate-making firms, seeking principally to improve the electrotyping process.

Board and Container Research — The Fourdrinier Kraft Board Institute announced on November 1, it had contracted with the Institute of Paper Chemistry at Appleton, Wis., for an extensive program of board and container testing. The purpose of this program is to establish a basis for evaluating Kraft Fourdrinier board and containers.

Non-Offset Solutions

in printing—Ingredients used in sprays in seven printing establishments showed no ingredients which would be injurious in the proportions found

By ADELAIDE R. SMITH, M.D. and WM. J. BURKE, Ch.E.*

*Abstract of report printed by permission of Executive Director Leonard Greenburg, M.D., Division Industrial Hygiene, New York State Department of Labor.

A FEW years ago the method of spraying to protect freshly printed sheets from off-set effects was introduced in the printing trade. By this method spray guns, located two or three feet above the printed sheets, shortly before the delivery board, deliver a fine spray to the sheets travelling under them. The solution forms a light film of quickly drying material which makes it possible to pile sheets, one on another, without smearing and without transferring the printed impression to the reverse side of the following sheet.

• • •

The spraying operation takes place near the end of the press and the pressman standing in front of the delivery board, about 3 ft. away from the spray guns, freely inhales the spraying solution. If the pressroom contains several presses so equipped, an appreciable amount of the material is disseminated throughout the room in the form of a fine powder.

Upon the introduction of this method complaints of discomfort from inhaling the sprayed material were made by some of the pressmen. Their complaints were chiefly of a feeling of "tightness" in the throat and chest. The Division of Industrial Hygiene was requested by the New York Press Assistants' Union to make a study of the ingredients of the sprays used in seven representative printing establishments. This was done and the ingredients found are listed in the following table:

Essentially all solutions examined were composed of water, gums with or without sugar, and two or more solvents, to which a trace of preservative was added in three cases. None of the analyses shows ingredients which would be injurious in the proportions found. The solvents in practically every case were composed largely of water and ethyl alcohol usually containing a small amount of methanol as a denaturant. Acetone and isopropanol were added in certain cases. The latter is non-toxic, and of methanol and acetone it may be said that in a study recently made by the Division of Industrial Hygiene[1] no harmful effects were found from exposure to vapors of these substances which were present in the air in concentrations of 20-25 p.p.m. and 40-45 p.p.m. respectively—concentrations much higher than would result from the use of the non-offset solutions described. While formaldehyde, which was used as a preservative in two cases, is a marked irritant in sufficient concentrations, its presence in traces only is insignificant.

Five of the seven solutions contained as their main ingredient, i.e., the substance responsible for the protective coating when used in a spray, gum arabic. In two instances this was combined with dextrin. In the other two solutions dextrin, or dextrin and glucose were employed instead of gum arabic. Since glucose is a sugar and dextrin (starch gum) is readily converted to a sugar, both are acceptable to the human organism and no untoward effects can be expected from their use.

Gum arabic, also known as gum acacia, since it is derived from the acacia tree, is a carbohydrate related to starch. It is used freely as an emulsifying agent in pharmaceutical preparations and also, because of its demulcent properties, in the manufacture of lozenges, trochees, gum-drops, etc. It has no irritant or toxic properties.

Whether the sensation of tightness complained of by some pressmen exposed to the spray of non-offset solutions is due to an effect produced by inhaling the above mentioned gums and sugars in a finely divided state or whether it is due to the presence of the solvents listed is not known, but the symptom is not believed to indicate anything more than a transient and harmless phenomenon.

Allergy to Gum Arabic

Of greater interest in connection with this particular occupational exposure is a case of allergy to gum arabic in a pressman which recently came to the attention of the Division. This case seems worth reporting not only because allergy to gum arabic is rare, but because it illustrates clearly an instance in which asthma must be considered a true occupational disease.

Other cases of allergy to gum arabic are mentioned only twice in medical literature. Maytum and Magath[2] of the Mayo Clinic reported a case of an apparently allergic reaction to this substance in 1932. At this clinic in recent years infusions of gum arabic instead of blood transfusions have been frequently used in suitable cases. Among 3,000 such cases, one showed an untoward reaction. Skin tests in this case were negative, but during a second gum arabic infusion, nasal obstruction, lachrimation and laryngeal stridor developed and were relieved by adrenalin.

Spielman and Baldwin[3] in 1933 reported a case of asthma in a plaster molder in a candy factory where the asthmatic attacks began six months after taking the job in which gum arabic was regularly used. This patient gave a positive patch test to dilutions as high as 1:5000. The authors were unable to obtain other positive reactors to gum arabic among 30 allergic individuals whom they tested.

Report of a Case

The case which recently came to the attention of the Division was the following:

The individual concerned, a pressman, 56 years of age, had worked at the printing trade for 36 years. In 1927 he developed asthma which was found to be due to house dust and rag weed. He was successfully desensitized to these substances and had no further trouble until 1937 when a rash appeared on his hands. In the meantime, in 1936, non-offset solution spray guns had been installed at his work place. Various ingredients were tried out and finally, in the spring of 1938 a solution of gum arabic, alcohol and water was adopted.

COMPOSITION OF NON-OFFSET SPRAY SOLUTIONS USED IN SEVEN REPRESENTATIVE PRINTING ESTABLISHMENTS

No.	GUM % of base	SOLVENT					Preservative
		Ethyl alcohol	Methanol	Acetone	Isopropanol	Water	
1	Gum arabic 13% Invert sugar	.....	Small amt.	8.5%	1.5%	89.9%	0.1% sodium benzoate
2	Gum arabic 15%	10%	0.5%	.....	.....	89.5%	.....
3	Gum arabic 14%	10%	0.5%	.....	.....	89.5%	Trace formaldehyde
4	Dextrin and glucose 28%	12%	.....	1.5%	.....	86.5%	.....
5	Gum arabic, Dextrin 32%, Small amount of ammonium stearate	10%	.....	1%	.....	89%	.....
6	Dextrin 25%	7%	Trace	.....	.....	93%	Trace formaldehyde
7	Gum arabic, Dextrin 15%	12%	.....	1.5%	.....	86.5%	.....

In March of 1938 the patient again began suffering from attacks of asthma and dermatitis. He would feel well on going to work, but after three or four hours would experience difficulty in breathing, with flushing of the face and rapid pulse. He made several attempts to work between March and October of 1938 but each attempt induced asthmatic attacks so that he was obliged to quit work permanently in October. Upon so doing, the attacks ceased.

Positive physical findings of the time of an examination in May 1939 were: Pulse 92, B.P. 190/120, enlarged heart with diastolic murmur over the precordial area, slight edema of legs.

The following intradermal skin tests were positive: House dust, feathers, gum arabic in 1 to 1,000 dilution.

Attempts to desensitize with the latter were accompanied by a recurrence of dermatitis. It was not thought that the heart condition had been related to the asthma, inasmuch as he was able to garden and climb stairs without difficulty.

On the basis of the gradual onset of symptoms from 1937 to 1938; the interval of time, approximately four hours, before symptoms would start while at work; the coincidence of the use of gum arabic in the plant and the development of symptoms; the positive skin reaction to gum arabic and the freedom from symptoms after stopping work, the case was considered one of occupational asthma, due to contact with gum arabic at the work place.

BIBLIOGRAPHY

1—Greenburg, L., Mayers, M. R., Goldwater, L. and Burke, W. J.: Toxic concentration of acetone and methanol. *The Industrial Bulletin* 18, 233, 1939.

2—Maytum, C. K. and Magath, T. B.: Sensitivity to acacia. J.A.M.A. 99, 2251, 1932.

3—Spielman, Aaron, D. and Baldwin, Horace S.: Atopy to acacia (gum arabic) J.A.M.A. 101, 444, 1933.

S. A. Printers' Machinery Needs Replacement

Priorities on paper and inks are causing many delays in delivery of orders with Brazilian printers, reported Rubens D'Almado H. Porto, manager-director de Artes Graficas Industrias Reunidas, S.A., upon arrival in Miami from Rio de Janeiro Monday (Feb. 5) on the Brazil Clipper of Pan American World Airways:

"Printers are suffering from the inability to replace worn out machinery. I have come to the United States with the hope of purchasing second hand machines to be used in our book publishing business. Rationing on paper and ink is troublesome, but worn out equipment is our chief worry," the publisher explained.

Porto, former director of the Government printing office, will visit Washington, D. C., New York, Philadelphia, and Chicago. He plans to be in the U. S. until the first of April.

Typographic Emblem

The accompanying service banner was designed and constructed by George Ebert, composing room foreman of A. S. Gilman, Inc., Cleveland commercial printers. The service banner appears in the *Cleveland Craftsman* official organ of the Cleveland Club of Printing House Craftsmen. It is used at the top of a column containing the list of Cleveland Craftsmen or their sons who are in the armed services.

With the exception of four pieces of brass rule and a foundry star the design was fabricated entirely of Monotype rule. The two angle pieces representing the cord and the two vertical wave pieces are brass rule. The original design is 14 picas across the horizontal bar upon which the banner is hung. It is shown here in slightly reduced photo-engraved form.

The Law of Change

By HARRY LOOSE*

**Abstract of address delivered before New Jersey Newspaper Mechanical Conference, December 1944, Elizabeth, N. J.*

THE only thing which never changes is the Law of Change itself. In fact, the fundamental principle of stability in business is the maintenance of a technique of change.

Why is it then that so many of us resist change? My guess is that we like to proceed along the same lines year after year and resent changes which might upset our thinking, our habits and our schedules; so we close our eyes to innovations or fight against them.

This has never prevented a change from taking place.

Now some changes are good and some changes are bad but they are all bad for the person who stays so far behind that he is unprepared to meet the new problems and the new conditions as they crystallize.

And if he does take advantage of these opportunities to be amply forewarned about what's ahead in his industry and is still caught, he either lacks foresight, everyday intuition, or just blindly and stubbornly ignores obvious trends.

There is just no excuse for anyone to be unaware of what's ahead in his industry and, knowing what to expect, lay his plans and make the proper decisions to meet innovations with both feet on the ground.

Lithography Defined[1]

THERE are three major processes: Letterpress, Gravure, and Lithography. It is not surprising that in connection with the Lithographic process a perhaps confusing nomenclature should develop: Off-set-lithography, Offset-lith, Offset-printing, Photo-offset, Photo-lithography, Planography, What do they all mean? They are all Lithography. The term "offset" refers to a kind of press upon which lithographed material is produced. The term "photo" merely refers to the application of the camera in the plate-making phases of the lithographic process. Both the simplest black-and-white pieces and the most elaborate productions in many colors may thus be "photo" "offset" lithography.

The term "Planography", which is all embrasive of the lithographic processes, reflects the fundamental fact that on the lithographic plate or stone, the "image" and non-image portions are on the same plane, in contradistinction to letterpress (relief or cameo) printing where the image portion is raised or "in relief," and to gravure (or intaglio) printing where the image portion is etched or "incised" below the surface of the plate, and the paper, under pressure, lifts the ink from the small "wells".

What does "Lithography" mean? While literally, it means "writing on stone", the onward march of the industry has long since carried it out of the "stone age", although the original principle of the apathy between grease and water is still basic in the use of metal plates on high-speed, modern multi-color presses.

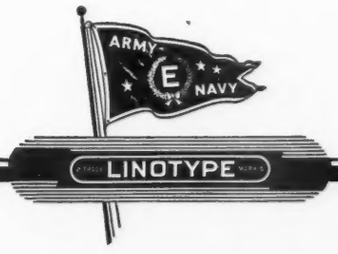
[1]Adapted from a bulletin published by Educational Department, Lithographers National Association, Inc., New York.

Synthox Roller Folder

Ideal Roller & Mfg. Co. has published a 6 page folder describing Synthox synthetic rubber rollers for typographic presses. Properties of these rollers are discussed. Instructions for ordering are also given. One page is devoted to the proper care of rollers—regular daily washup, restoring tacky surface and checking and treating ends of rollers.

technical illiteracy

and buggy whips



TIME WAS when some thought it unnecessary for men in the business office to concern themselves with the technical "mysteries" of mechanical production. Nor was it considered wholly relevant for the craftsmen in the plant to understand front office problems.

Not so, now! That printing organization is smoothest running which knows enough of the technical details to be assured of the best equipment for its specific needs; to keep its mechanical staff in tune with the front office; to see that the proper standards are maintained in each; and to educate its advertisers in the requirements of changing techniques.

Our interest lies in the composing-room—the key to successful printing production. Your Linotype Production Engineer is ready to help. *Linotype Caslon Old Face*

"To Be Or Not To Be" *Means "Buy Bonds!"*

Delectable Keepsake Book Was Carefully Planned

IT has been the custom of the Maple Press, printers and designers of technical and medical books in York, Pa., to publish a keepsake book each year. This year's book is entitled *China* and contains abstracts from addresses delivered by Madame Chiang Kai-Shek in several cities in this country and Canada. Our interest in mentioning the book here is not to appraise Madame Chiang Kai-Shek's addresses, but rather to discuss its design and planning.

The size of the book is 6¼ in. wide by 10⅛ in. high and consists of 52 pages bound in boards. The paper is Laid Yellow Linweave Text. The type is printed throughout in black and the ornamentation is in red and black which in combination with the yellow paper provides a fine impression of oriental atmosphere.

The book was set by hand in 14 pt. Monotype Janson roman and italic leaded 6 pts., 24 picas wide. In the colophon of the book it is stated that the type was immediately remelted after the printing of the 600 numbered copies was completed.

The book was designed by Howard N. King, typographic director of the Maple Press. Illustrations were drawn by Jeanyee Wong, a Chinese girl artist in New York, N. Y. The Chinese characters in the upper corners of the pages spell out book title "China." These characters are printed in red throughout. A typical illustration is shown in the accompanying minature reproduction. In this case, the body of the dragon was printed in red ink and the balance in black.

The binding—paper over boards—was executed by the National Publishing Co., Philadelphia. The spine is of black cloth and extends ½ in. on each cover.

BOOKS
RECEIVED

Offset Plate Making—Deep Etch (Gum) Process

OFFSET Plate Making—Deep-Etch (Gum) Process, is the newest in the continuing series of modern basic text books produced as a part of the Lithographic Technical Foundation's educational and employee training programs, now being distributed to its members.

This text is prepared in the standardized, attractively lithographed style adopted by the Foundation under its new program. It represents an authentic and up-to-date treatment of the subject and supplies detailed information on the Deep Etch Process, broken down into simplified reading, teaching or training lessons.

In it are embodied the latest developments as covered in the Foundation Research Bulletin No. 14, dealing with an image that washes out with water and a moisture removing lacquer. These improvements have been the result of Foundation research on behalf of the armed services and the industry to offset shortages of such vital materials as alcohol and to overcome certain production handicaps. They have developed into distinct advantages and this text presents them in a manner suitable for practical application in shop language and procedure.

The text also contains valuable information on graining and graining materials not previously published.

Currently, additional publications forthcoming from the Foundation will include a new basic text on Lithographic Press Operating No. 1 and Shop Manuals on Inking System, Press Blankets and Feeder and Delivery for Offset Presses. Basic texts on Stripping (Black and White) and Lithographic Press Operating No. 2 are said to be in an advanced stage of production.

At a recent meeting of the Executive and Finance Committees of the Foundation, budget provisions were made to assure the continuance of expanded programs of research and education, including the necessary texts, manuals and training courses.

Rubber Cement for Bonding Materials

A RUBBER cement, named Plastilock 500, a non-thermoplastic, water and aromatic oil-resistant adhesive for bonding metals, wood, plastics and ceramic material to themselves or to each other is announced by The B. F. Goodrich Company. In using Plastilock 500 the company advises that best results are gained by applying heat with pressure, although heating alone will give some degree of adhesion. Purpose of the pressure is to obtain good surface contact. The bond strength varies with the materials being adhered.

The new adhesive, used for metal-to-metal bonding, has shown a shear strength of 3,250 lbs. per sq. in. Tension strengths of 4,000 lbs. per sq. in. have been reached. Tests made after the bonding of wood and plastic to aluminum, which presents extremely difficult problems of adhesion to other materials have resulted in the wood and plastic being torn because the strength of the bond was greater than that of these materials.

Directions for applying Plastilock 500, as given by the company, are: Remove dirt, grease and scale from both surfaces to be bonded. Apply three coats of Plastilock 500 to each surface and dry each coat at room temperature for at least one hour. If thinner is required, use denatured alcohol. Then assemble and pre-heat at 250 deg. F., for 30 min., 300 deg. F. for 20 min., or 350 deg. F. for 10 min. Follow this by applying sufficient pressure to get good surface contact without squeezing out the adhesive and heat at 250 deg. F. for 45 min., 300 deg. F. for 25 min., or 350 deg. F. for 12 min.

RECOGNITION *of* ACHIEVEMENT

for the 5th time (Jan. '45)

Five times now in less than three years, the War Department has cited our organization for sustained outstanding production achievement worthy of the Army-Navy "E" Award.

When we receive honorable discharge from Government service our organization will just as enthusiastically and efficiently return to manufacturing the high quality line of equipment which for more than a century has consistently won the acclaim of the printing and publishing world.

4th JUNE, 1944

3rd NOVEMBER, 1943

2nd MAY, 1943

1st AUGUST, 1942

Back the Invasion
Buy more War Bonds

R. HOE & CO., INC.

910 EAST 138th STREET, NEW YORK 54, N. Y.

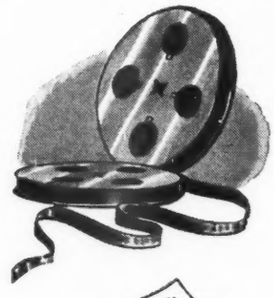
BRANCHES: CHICAGO • BOSTON • BIRMINGHAM • SAN FRANCISCO

TO COMPANY PRESIDENTS:

Here's Another BIG CHANCE FOR YOU to "Pass the Ammunition!"

Today—thanks largely to you and other industrial executives—22,000,000 civilian workers are speeding victory and achieving postwar security through the Payroll Savings Plan. Over 60% of the 6th War Loan subscriptions came from this source—and, between drives, this forward-looking plan has been responsible for 3 out of 4 War Bond sales!

Good as this record is, the Payroll Savings Plan can be still more effective. Believing this can best be accomplished by giving Bond buyers a definite idea of the many benefits accruing to them, the War Finance Division has prepared a variety of active aids for employee education.

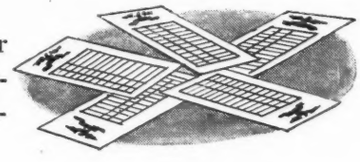


This new "ammunition" includes:

a—An entertaining, swift-paced moving picture, graphically showing the importance of buying—and holding—War Bonds.

b—An interesting, easy-to-read booklet, explaining how War Bonds may be accumulated to provide education for children, homes, retirement incomes, etc.

c—Attractive, handy War Bond envelopes, enabling Bond holders to note each separate purchase—and the specific purpose for which each Bond or group of Bonds was bought.



Passing this particular ammunition requires that you reappraise your own company's Payroll Savings Plan. Have your own War Bond Chairman contact the local War Finance Committee—today! They will welcome the chance to discuss this new program with you.

The Treasury Department acknowledges with appreciation the publication of this message by

PRINTING EQUIPMENT ENGINEER

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

Printing Patents Report . . .

Covering Patents Issued January 16, January 23, January 30, February 6, February 13

This data is compiled exclusively for Printing Equipment Engineer by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading for the dates specified.

For copies of patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

During the five weeks covered, no new patents have been issued pertinent to this heading.

Composing Room Equipment:

2,367,198. MACHINE FOR SURFACING TYPE usually cast in a line, such as produced by the Linotype, Intertype, Ludlow Typograph, and the Linograph. Head and work support structures are supported by type bed, one being movable on the bed relative to the other. The head structure supports a rotatable shaft with a cutter that is directed toward the work structure, the cutter having detachably secured cutting teeth. Means interposed between the shaft and the arm adjust the cutter toward and away from the work structure. A guard surrounds the cutter and includes an access portion arranged to expose the detachable connection between a tooth of the cutter and the tooth support. The arm and shaft interposed means may be locked in adjusted cutting position as indicated on a scale. Invented by Raymond C. Cashon, Indianapolis, Ind. Unassigned. Application April 15, 1941. 6 claims.

2,368,860. TYPOGRAPHICAL DISTRIBUTING MACHINE equipped with a number of matrix magazines. A shift frame brings any selected magazine into operating position and the magazine entrance is used to conduct matrices from the distributing magazine to the selected magazine. One of a pair of matrix feelers is movable across the path of the matrices undergoing distribution and the other is movable across the lower end of the selected magazine in operative position. A lock for the magazine shift frame is acted on by an automatic mechanism for unlocking the magazine shift frame for movement and concurrently to move magazine entrance out of operative relation to the magazine in operative position and to effect movements of matrix feelers. Unlocking of the magazines is automatically prevented whenever either of the matrix feelers is obstructed in their movement by contact with a matrix. Invented by Richard R. Mead, Queens Village, N. Y. Assigned to Mergenthaler Linotype Company, Brooklyn, N. Y. Application December 10, 1941. 40 claims.

DESIGN 140,364. ORNAMENTAL DESIGN FOR A FONT OF MUSIC TYPE which includes a number of forms for each letter of the seven-letter musical alphabet, i.e., A, B, C, D, E, F, and G. Each letter is shown as a music note and is designated as a whole note, quarter note, eighth note, etc., by the absence or presence of an upright note stem and one or more flags on the stem. A duplicate set of these notes from A through C are identical except that the stems extend downward presumably to distinguish the notes in a second part of the music score. Invented by Jack C. Lewis, New York, N. Y. Unassigned. Application November 13, 1942.

Feeding, Folding and Delivery:

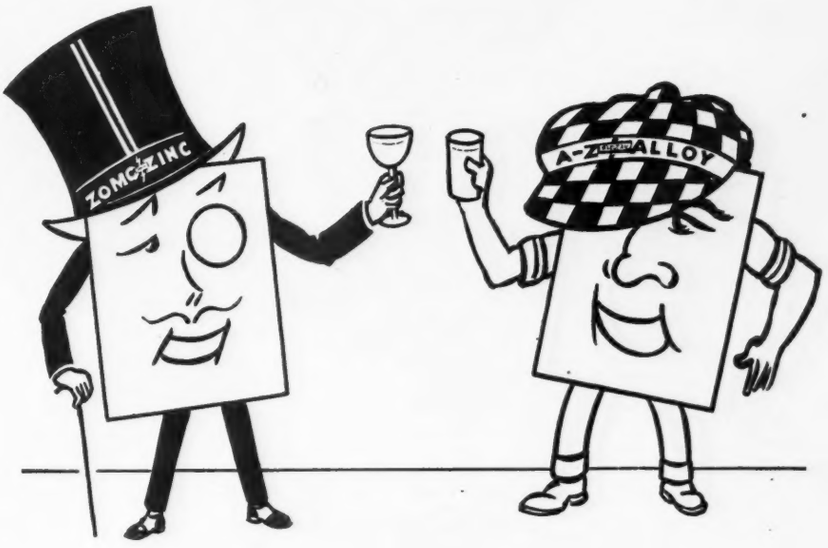
2,367,529. SHEET DELIVERY for platen presses which is operative to deliver a sheet laterally of the press. It includes a sheet picker, a picker carrier and means for reciprocating picker carrier vertically. Picker carrier may be pivoted to swing sheet picker from a position above the platen of press to a position laterally of press in such times relation to reciprocation that the sheet picker is first elevated from a position where direct engagement is had with a sheet upon platen prior to being swung laterally. Invented by Charles F. Root, Cleveland, Onio. Assigned to The Chandler & Price Company, Cleveland, Onio. Application November 26, 1941. 18 claims.

2,367,777. PAPER REWINDER having a pair of spaced adjacent under-drums in horizontal alignment and a supported roll to be unwound in spaced relation from under-drums. A roller is rotatably mounted adjacent roll support and a second roller is adjacent one of under-drums. An endless belt is trained between rollers, belt tensioning means acting on belt to cause it to hub a roll mounted on roll support and exert a constant predetermined degree of frictional force on roll irrespective of the changing size and weight of roll as it unwinds. A driving connection between means for driving one under-drum and the roller adjacent the roll support drives the belt to unwind a roll on roll support and carry unwinding material to one under-drum. This under-drum receives the material and cooperates with another under-drum for winding material into a roll in the nip between the drums. Invented by Lloyd Hornbostel, Beloit, Wis. Assigned to Beloit Iron Works, Beloit, Wis. Application August 22, 1942. 7 claims.

2,367,974. PAPER SLITTING MACHINE in which two rotatable and circular shears engage sidewise under spring pressure in overlapping relation. A support bar for one of the shears is mounted to have two movements, one an endwise movement and the other a turning movement. Mechanism including two reversible and simultaneously actuable trains of elements separates and sequentially, in two intermittent steps, moves the bar endwise to separate the shears sidewise and to turn bar to bring shears out of overlapping relation. Conversely, the bar may bring the shears into sidewise engagement. An actuating snaft is mounted to turn with uninterrupted movement in either direction to simultaneously actuate both of the trains of elements in either direction. Invented by William M. Stocker, Hollis, N. Y. Assigned to Cameron Machine Company, Brooklyn, N. Y. Application October 20, 1943. 3 claims.

2,368,094. ELEVATOR FOR SHEET FEEDERS is mounted upon a printer frame to which the sheets are fed from the elevator. The platform is removable when the pile of sheets has been exhausted and may be readily dropped to the bottom position on the elevator, so that another loaded platform may be lifted to a feeding position. The frame for the elevator is formed from two spaced rectangular sides, each side comprising a pair of spaced walls providing elevator guides for each of two side bars. Each side bar carries a suitable collar at each end to engage the edge of its respective guide and is thereby retained in position between the spaced walls. A rod extends between each side bar and is secured at a point adjacent rear ends. Side bars are raised by a cable which passes over a sheave to a winding drum. Invented by Leonard Baker, Hillsdale, N. J., and Leo C. Williams, Pearl River, N. Y. Assigned to Dexter Folder Company, Pearl River, N. Y. Application June 25, 1942. 23 claims.

2,368,098. SIDE REGISTER FOR SHEET FEEDERS which eliminates the occurrence of faults in the printing surface of the sheets caused by slipping of the rollers on the sheet. Sheets are fed across a base and are moved against a side guide projecting up from base. A shoe pivoted to and overlying this base forms a throat for guiding sheets in their movement toward the side guide and an adjustable stop sets the opening of this throat. A driven roller has its peripheries tangent to and exposed at



What Do They Know About
GOOD MIXING?

THESE METALS have a nation-wide reputation for good mixing.

We mean, of course, the mixing of the alloys which go to make up their compositions. For, both Zomo Electric Zinc and A-Z Alloy are scientifically mixed and blended in the electric induction furnace. This process is exclusive with these metals and assures plates with less than 1/20th of one per cent variation in composition.

In addition, the electric induction process eliminates troublesome hard spots and blemishes which result in profit-eating make-overs.

You'll find it's good business to order Zomo Electric Zinc and A-Z Alloy from your regular metal supplier today.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

the top surface of base and this roller cooperates with a drop roller on a movable support which is periodically lifted to separate the rollers for feeding sheets therebetween. A lost motion connection between support and shoe is provided whereby the lifting of the support also lifts the shoe while any motion of the drop roll during the side registering of the sheets leaves the shoe undisturbed so that opening of the throat remains constant during side registry. Invented by Frank R. Belluche, Racine, Wis. Assigned to The Christensen Machine Company, Racine, Wis. Application June 12, 1943. 13 claims.

Miscellaneous:

2,368,157. PROCESS FOR PRINTING UPON DRIED CELLULOSE ESTER LACQUER with a fast drying ink comprising a volatile solvent, a pigment and a film forming binder for the pigment. Drying of ink prior to printing is inhibited by incorporating in it a drying retardant such as dibutyl phthalate, butyl cellosolve, etc. The retardant maintains ink in a wet tacky state for several hours when ink is spread in a thin film on printing type, yet the ink is set on the lacquer film in about 10 seconds after application at atmospheric temperatures by evaporation of solvent and absorption of the retardant into the lacquer film. Metal and glass may be printed by this process. Invented by Frank T. Ortolano, New Orleans, La. Assigned to Rheem Manufacturing Company, Richmond, Calif. Application October 18, 1941. 1 claim.

2,369,549. PRINTED LABEL FOR AN AUTOMOBILE WINDSHIELD. Its special construction prevents its removal from the glass for transferal to another vehicle because any attempt to scrape it from the glass or soak it loose will destroy the label. The label is made up of a thin sheet of paper which is provided on one face with a thin coating of pigment. Upon the pigment is printed the desired legend and over this printing is placed a coating of varnish which protects the underlying lithographing or ordinary printing. A coating of spirit gum adhesive is applied over varnish and serves to attach the label to the glass panel after label has been moistened. Finally nonrepeating numbers or other indicia are printed on adhesive coating with non-penetrating ink. Invented by Daniel L. Francescon, Oak Park, Ill. Assigned to Columbian Bank Note Co., Chicago, Ill. Application May 20, 1942. 3 claims.

Plate Making:

2,367,236. ELECTROLYTIC METHOD OF PRODUCING PRINTING PLATES to impose a contrasting photographic image upon a metal plate. The plate is etched to develop the image in relief in the form of minute relief areas of metal with adjacent depressions. An acid resisting non-conducting resist is applied to the relief areas and plate is coated over the area occupied by image, except for that portion occupied by resist, with a thin electrolytic deposit of an etchable metal. Deposit is produced by applying to plate surface an electrolytic bath through which a single electric current is passed so that the depth of etchable metal deposited varies over the plate surface in inverse proportion to the amount of etching in any given area. Plate is then subjected to an etching bath to an extent sufficient to remove all the electroplated metal in at least substantial areas of the plate and etching is continued to remove a large amount of underlying metal so that the contrast of the photographic image is increased. Invented by John J. Murray, Arlington, Mass. Unassigned. Application May 27, 1940. 1 claim.

2,367,335. INDEPENDENT COLOR SEPARATION RECORDS are obtained from two or more inseparably superposed color sensitized emulsion layers carried by a single support. In the case where there are two superimposed layers, the method comprises the steps of developing the emulsion layers after exposure, bleaching the images in both layers, and redeveloping the outer layer remote from support. Then the bleached image next to the support is photographed by reflected light against a black background placed against the redeveloped image. The image layer next to the support is eliminated and the image in the layer remote from the support is left capable of being duplicated or printed by transmitted light. Invented by Harry Edward Coote, North Wembley, England. Unassigned. Application January 8, 1943. 2 claims.

2,367,420. PHOTOGRAVURE PRINTING PLATE which includes a base of sheet material such as metal or paper treated with some resinous material to make it impervious. Two coatings are applied, the one next the base being of a hydrophilic protein material such as casein, and the outer one being a soluble polyvinyl alcohol. The plate is capable of being sensitized. It can be put in condition for printing by exposing selected portions of surface to light, thereby rendering them different from unexposed portion, then coating the plate with a developing ink or grease which adheres to light exposed surfaces, and then washing polyvinyl alcohol and ink or grease from unexposed surface. A feature of the invention is that the thickness and water-sorptive character of the non-grease-receptive areas of the casein coating are such that when water is applied thereto, they swell to a level above that of the grease-receptive areas. Invented by William G. Mullen, Danvers, Mass. Assigned to Lithomat Corporation, Boston, Mass. Application June 22, 1942. 2 claims.

2,367,551. PHOTOGRAPHIC MATERIAL for making a multi-colored mask for use in a color correction process, which mask is for a positive or negative multi-color record through which it has been exposed. The material is a multilayer made up of several parts, each consisting of one or more layers. One part is sensitive to green light only by suitable sensitization and filtering, and this part contains color couplers developable to a color which absorbs blue and transmits green light. Such a color in one embodiment is yellow; in another it is green. Another part of the material is sensitive to primary red light only and contains couplers developable to blue. Invented by John A. C. Yule, Rochester, N. Y. Assigned to Eastman Kodak Company, Rochester, N. Y. Application April 1, 1942. 6 claims.

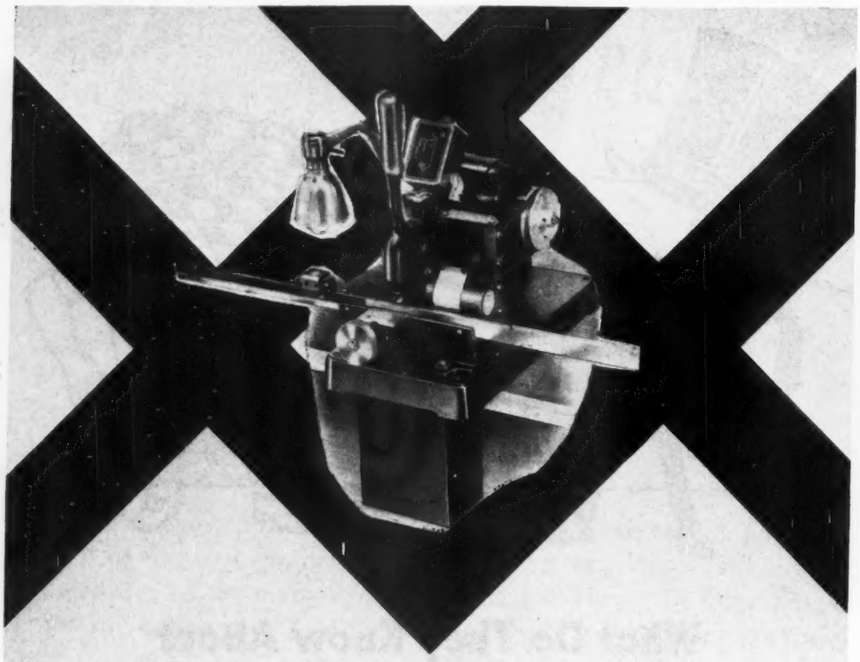
2,369,567. FLAT OR OFFSET PRINTING PLATES are made with an image metal portion selected from the group consisting of nickel-cobalt alloy, copper, zinc and brass. A fat ink image is produced by a usual method on this image metal portion. Then the level metal portion, i.e., the unprotected parts, are coated with a metal selected from the group consisting of nickel-magnesium alloy, cobalt-magnesium alloy, cobalt, nickel and iron. The plate is etched and treated with a "flotation addition"—as in the dressing of ore by the flotation method—so that moistening capability of each of the two metals as regards fat and water is respectively increased. The "flotation addition" is selected from the group consisting of alkali xanthates, sulfoureas and soluble thiocyanates. Invented by Fritz Hermann Hausleiter, Munich, Germany. Vested in the Alien Property Custodian. Application September 10, 1940. 4 claims.

Printing Inks and Related Chemicals:

2,367,183. PROCESS FOR THE PRODUCTION OF SYNTHETIC RESINS useful in printing ink, rubber cement, varnishes, etc. They are produced by reacting aromatic hydrocarbons with formaldehyde or paraformaldehyde in the presence of zinc chloride dissolved in glacial acetic acid, or in the presence of sulfuric acid or ferric chloride. This reaction mass is then further treated. Invented by Alva C. Byrns, Palos Verdes Estates, Calif. Assigned to Union Oil Company of California, Los Angeles, Calif. Application October 28, 1940. 4 claims.

2,367,469. WATER-SOLUBLE POLYAMIDES useful in various forms and for many purposes, such as for gelatin substitutes, binding agents, sizing and finishing agents and thickening agents for printing pastes. 75 parts by weight of hexamethylenediamine adipate are condensed with about 23 parts of epsilon-amino-caproic-acid-hydrochloride at from 211-222° C. for twenty hours with exclusion of air. Invented by Paul Moller, Dessau, and Hans-Joachim Nicolai, Dessau-Haideburg, Germany. Vested in the Alien Property Custodian. Application March 13, 1941. 1 claim.

2,367,519. CONDITIONING PHTHALOCYANINE DYESTUFFS TO PIGMENTARY FORM. The pigment is useful in printing inks, lacquers, plastics, etc. It is produced from the dyestuff by dissolving it in strong sulfuric acid and then precipitating the dyestuff by the addition of ice water. The process is carried out under specially controlled conditions. Invented by Grady M. O'Neal, Chicago, Ill. Assigned to The Sherwin-Williams Company, Cleveland, Ohio. Application March 1, 1941. 9 claims.



HOW WILL YOUR
Competitor Do It?

It is important to know the most efficient production methods in order to anticipate your competition. It is equally important to have the equipment to meet this competition.

The war has made everyone especially conscious of high speed machinery. This is evidenced by the number of orders for this type of equipment.

The Rouse Vertical Miterer is essential for highest production in the composing room. The Economy model, shown here, cuts 700 miters an hour direct from strip material. The Master Vertical Rotary Miterer cuts more than 1,000 an hour. Miters are true and perfect joining.

If you are planning for stepped-up postwar production, and full efficiency of operation, you should have a Rouse Vertical Miterer. Selection can be made now subject to delivery when available. Write for full information.

H. B. ROUSE & COMPANY
2214 NORTH WAYNE AVENUE, CHICAGO 14, ILLINOIS

A GREAT *Combination* CHALLENGE

LABOR-SAVING IRON FURNITURE
MAMMOTH IRON FURNITURE *and*
HI-SPEED QUOINS

Fill out the form with Challenge Labor-Saving Iron Furniture and Mammoth Iron

... Then lock-up accurately with Challenge HI-SPEED QUOINS

The Best Print Shops Use Them For Top Quality Printing . . .

- **CHALLENGE LABOR-SAVING IRON FURNITURE** is made in over 100 standard sizes from 2x4 ems pica to 10x70 ems pica. Only a specially selected mixture of close-grained iron is used in making this furniture. Precision machined on all sides and with ***Velvet Edges*** to insure lasting accuracy and easy handling.
- **CHALLENGE MAMMOTH IRON FURNITURE** for filling large space is made in 70 sizes from 15x15 to 60x120 picas. Same material and precision accuracy of finish as smaller furniture.
- **CHALLENGE HI-SPEED QUOINS** save up to two-thirds of the lock-up time with ordinary quoins. Made of finest steel, rust-proof plated in six handy sizes—4½ to 12 inches.
- **WRITE** for complete data and prices today on these money-savers.

★

BACK THE INVASIONS --- BUY MORE WAR BONDS!

504

THE CHALLENGE MACHINERY COMPANY
"Over Fifty Years in the Service of the Graphic Arts"
GRAND HAVEN — MICHIGAN

Booth's Zink Cut Cement prices in the United States: 75c per tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots.

Booth's Zink Cut Cement

is a thoroughly dependable product. The last quantity of cement squeezed from a nearly exhausted tube is just like the amount first ejected from a new tube. No waste. Fastens all kinds of cuts to wood or metal base.

Booth's Black Rubber Rolls

When properly applied to line-composing machine keyboard roll shafts are concentric throughout. Resilience is their dominating characteristic. $1.45 per pair; $7.75 per dozen rolls.

E. A. BOOTH
RUBBER COMPANY
364 ROCKEFELLER BUILDING · CLEVELAND, OHIO

2,367,581. PRINTING INK COMPOSITIONS, such as aniline ink, in which hydrogenated rosin is included as a binder. The process of invention comprises mixing a dye base, containing a mordant such as tannic or oxalic acid, and an ink base, containing the rosin, and heating at a temperature not exceeding 130° F. Glacial acetic acid is used as a solvent and the rosin may be treated with fuller's earth prior to incorporation in the composition. Invented by George F. Hogg, Chicago, Ill. Assigned to Hercules Powder Company, Wilmington, Del. Application November 4, 1942. 4 claims.

2,368,082. 1:2 ALKYLENE IMINE CONDENSATION PRODUCTS useful in printing processes, as dispersing agents, etc., as well as in the pharmaceutical, cosmetic, textile, leather and rubber industries. The nitrogenous products are produced by reacting monomeric 1.2-alkylene imine with an organic compound free from carboxylic groups and containing at least 6 carbon atoms in the molecule, and at least 1 halogen atom attached to a carbon atom devoid of oxygen directly attached thereto. Invented by Heinrich Ulrich, Ludwigshafen-on-the-Rhine, Germany. Assigned by mesne assignments to General Aniline & Film Corporation, New York, N. Y. Application December 12, 1940. 23 claims.

2,368,560. PREPARATION OF HYDROXY HEAVY METAL SOAP COMPOSITIONS useful as ink driers, mildewproofing agents, flame-proofing agents, etc. A dispersed hydroxy copper soap in a dehydrated organic vehicle is produced by thermally dehydrating in a water immiscible organic vehicle an aqueous magma comprising the reaction product of an alkali soap, a water-insoluble non-volatile, organic acid, free alkali hydroxide and water-soluble copper salt to completely react with alkali soap and free alkali hydroxide. Invented by Arthur Minich, Westfield, N. J. Unassigned. Application May 17, 1944. 3 claims.

2,368,767. ADHESIVE COMPOSITION made of a protein such as casein plasticized with a polymerized terpene having a melting point up to about 80° C., such as alpha pinene, beta pinene, etc. The composition is useful in pigmented compositions for coating and printing paper, textiles and leather, to provide binding action on the pigments. Clay and various pigments are used. Sulfonated castor oil, metallic soaps, etc., are also used in the composition. Invented by Malcolm C. Moore, Wilmington, Del. Assigned to Hercules Powder Company, Wilmington, Del. Application February 20, 1941. 14 claims.

2,368,940. PROCESS FOR PRINTING NYLON that is dyed with a dischargeable ground color. This is printed with a vat dye, eliminating the halo. The vat dye is applied with the usual printing paste containing an alkali metal sulfoxylate formaldehyde reducing agent. The improvement comprises using as the only added alkali in the printing paste an alkali metal carbonate equal to 0.1%—0.5% of the weight of the printing paste. Invented by Charles Franklin Miller, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application February 10, 1943. 1 claim.

2,369,307. STABILIZED DIAZO COMPOUNDS are prepared which, in patents 2,369,308 and 2,369,309, are used with an ice color coupling component to make a color producing composition. The method of preparing comprises condensing an ice color diazo component of the benzene series with a compound selected from the group consisting of cyanamide, dicyandiamide, guanidine, guanylurea, and biguanide, the members of this group being substituted at least once by a member of the group consisting of an alkylol and an alkoxy-alkylol but being otherwise unsubstituted. Invented by Paul P. McClellan, Old Greenwich, and Walter P. Ericks, Cos Cob, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application December 12, 1940. 10 claims.

2,369,308. NEW AZO PIGMENTS AND DYES are prepared by mixing an ice color coupling component and the reaction product prepared as described in patent 2,369,307. As such, the mixture may or may not be colored. However, if a textile material is printed with this mixture and then heated in the presence of an acid, the acid hydrolyzes the stable diazo compound, splitting it into its components. Thereupon the regenerated diazotized component couples with the ice color component to form a brilliant pigment or dye where the textile was printed. Invented by Paul P. McClellan, Old Greenwich, and Walter P. Ericks, Cos Cob, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application August 30, 1941. 8 claims.

2,369,309. STABLE ALKALINE PRINTING PASTES are made with a thickener such as starch or gum and with an ice color coupling component and the reaction product prepared as described in patent 2,369,307. These ingredients are dissolved in a solvent such as alcohol, acetone, etc. Cotton goods can be printed with the paste by a copper role. The print is then dried and subsequently the desired amount of color is developed by acid (see patent 2,369,308) as by steaming in acetic acid vapors, thus producing insoluble azo pigment as the printed pattern. The resulting print is fast to light and washing. Invented by Paul P. McClellan, Old Greenwich, and Walter P. Ericks, Cos Cob, Conn. Assigned to American Cyanamid Company, New York, N. Y. Original application December 12, 1940; divided and this application August 30, 1941. 6 claims.

Printing Presses and Equipment:

2,367,290. IMPROVED SLUR-PREVENTING MECHANISM for use in conjunction with printing presses of the reciprocating bed and oscillating cylinder type. An automatic mechanism is provided whereby when impressions are printed on a paper sheet by the last line of type of the bed or chase, the trailing edge of paper is lifted from engagement with type. This is accomplished by a rocker member that is supported by the chase and contiguous to the last line of type. Resilient sheet-lifting fingers are fixed to the rocker member. When the cylinder is in registration with the last line of type in the chase, the rocking member is tipped, thus elevating the resilient fingers to raise the trailing edge of a paper sheet above the last line of type. Invented by Glen N. Krouse, Columbus, Ohio. Unassigned. Application January 19, 1944. 6 claims.

2,367,856. APPARATUS FOR COATING PRINTED SHEETS with a high gloss lacquer or other decorative or protective material. It is not necessary to use a paper which has been highly calendered or clay coated and a cheaper grade of paper may be used. A number of coating units are adjacent the periphery of a sheet drum. Mechanism for the coating units effects alternate independent bodily movement so that one unit will apply coating to a sheet carried by the drum on one revolution of the drum and another unit will apply a second coat to the sheet on the next revolution of the drum. Invented by Joseph Ettl, Highlands, N. J. Assigned to Potdevin Machine Company, Brooklyn, N. Y. Application February 14, 1942. 16 claims.

2,368,176. COATING MACHINE by which webs of absorbent paper are coated with an oil phase resin-bearing emulsion or other mixture which will not wet the paper. The machine comprises a moving bed for supporting the web, a mechanism for applying coating mixture to the web without water wetting the web, and a stationary scraper cooperating yieldingly with coated surface of web to spread the mixture and produce a thin and even coating. The elastic bed may be in the form of a roller or a continuous belt. If the latter is used, parts of the machine may be inclined at different angles or belt as a whole may be tilted. Emulsion can be supplied by gravity, immersion or surface contact. Invented by Arthur Ronalt Trist, London, England. Unassigned. Application September 17, 1941. 4 claims.

2,368,341. MULTICOLOR PRINTING MACHINE, including ink drying devices, which will print and dry one or two webs with one or two kinds of ink at high speed, or will print and dry one web with three or four kinds of ink. The web is led through a first printing unit and an ink drying device, and then through a second printing unit and ink dryer, to complete printing on both sides when applying one or two colors on each side. Or the web may be led successively through two printing units and two drying devices and then through a second pair of printing units and two drying devices to apply three or four colors on each side, the web speed in either case being the same. Invented by Adolph M. Zuckerman, New York, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application June 2, 1942. 7 claims.

Smooth Sailin'
AHEAD!
When You Use Burgess Chrome Mats
They're laboratory products . . . thoroughly tested . . . absolutely dependable for uniformity, thickness and texture.
You get more casts, too . . . sharp and clean cut all the way . . . that produce line and halftones equally well . . . and the ease of manipulation is truly amazing.
If you're not using Burgess Chrome Mats, switch today and realize the definite advantages of really superior mats.
A Laboratory Product
BURGESS
Chrome
MATS

This Advertisement Printed From Plate Made From A Burgess Supreme Tone-Tex Mat

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
FREEPORT • ILLINOIS
Pacific Coast Representative
RALPH LEBER CO., 426 Polson Bldg., SEATTLE, WASH.

Many hundreds of the famed

CHROMALOX

(two-in-one)

HEATING UNITS

(PART NO. M-13—$31.10)

have been put into Linotype pots in the past eight or nine years.

Of these we can recall only about five which failed, and which we replaced as defective. The fellows who have had the job of putting these elements in their pots, will tell you what an easy job it is. One Chromalox takes the place of two old style units, F-3071 and F-3072.

Dross, being inert, is a fine insulator of heat. When this dross builds up between the old style heaters it reduces their efficiency by as much as 50%. In terms of dollars and cents, this means more current used and longer heating up periods. Chromalox retains its efficiency to the end because no dross can build up around it.

All in all, you can readily see why it is cheaper in the end to use CHROMALOX; why so many plants keep a spare CHROMALOX on hand to replace the old style ones as they go bad.

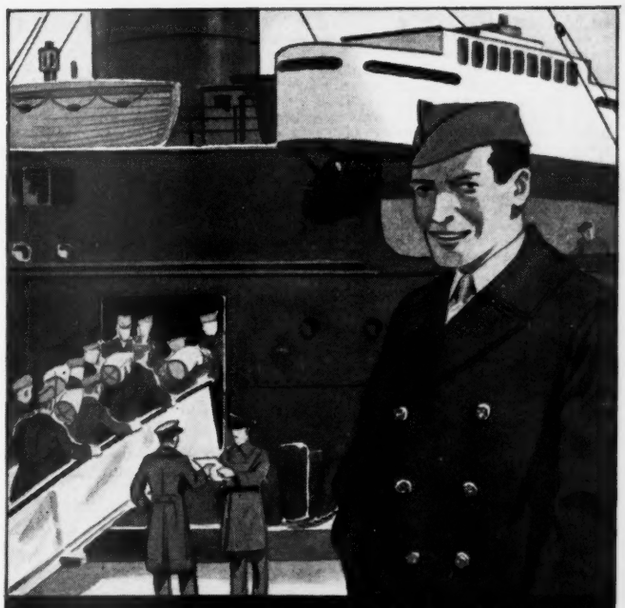
A circular with more details is yours for the asking.

ACE BELTS withstand the toughest test, — the test of time.

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

Factory and Main Office:
WEATHERLY, PA.
Branch Office: 314 WEST 10th STREET, KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER



The kid gets 30 days ---HOME

Dear Pop,

Here's some news you've been longing to hear. It's news I've been hoping to send you since I went over in November of '43. I've got a FURLOUGH. Thirty days is the count!

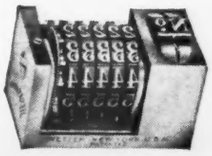
I can't tell you when I leave or how—but by the time you read this I'll be well on the way; one of a number of "vets" who saw action in Africa, Sicily and Italy and now, through the "powers that be", have a chance to ease up a bit.

Not that the war is nearly over! The hardest fighting is still ahead—and after we "early birds" get some rest we'll go back to finish our job.

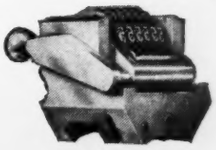
But to finish that job right, there can't be any easing up on the home-front. As the Secretaries of War and Navy have stated, several million more men must get into "war production"... there's a 72% "war" labor turnover that must be wiped out... for we face a desperate enemy with his back to the wall. So, during my 30 days' stay in the "states", I hope plenty of stuff is ground out—ammunition, guns, tanks, trucks, food, clothing—so I'll find a lot of my "friends" in the convoy on the way back. I know that my furlough is just a 7th inning "stand-up and stretch" period... I'll be back in there for the end of "the ninth" and, with the last "kraut" out, maybe I can help "Mac" lick the Japs.

Well—it won't be long now before I'll be seeing you, Pop.

The Kid



Wetter Lock-Wheel
One of many models



Wetter Rotary
One of many models

WETTER NUMBERING MACHINE CO.
ATLANTIC AVE. & LOGAN ST., BROOKLYN, N. Y.
Sold by all dealers and branches
AMERICAN TYPE FOUNDERS

7371

2,368,365. PRINTING PRESS OF THE GORDON TYPE in which a mechanism is interposed between the bed and platen structures to prevent play between the press parts through which rocking of bed and platen structure is effected. An oscillatory platen rocker is mounted on frame and has an extension at one side opposite the side carrying the platen. Platen and bed are rocked oppositely to tilt them and bed back and forth from open to closed positions. Movement of rocker extension is generally in the same direction as that of bed. A pair of abutments is pivoted to back of rocker extension in horizontal opposition relative to center, each pivoted abutment having a companion abutment on its corresponding bed supporting leg and further having a guide rod slidably supported at the extremity by a companion abutment. Compression springs interposed between respective abutments act through bed and platen rocker to yieldingly hold cam roller against its cam and further to yieldingly prevent lateral shifting of platen rocker, back shaft, side arms, and main shaft in their respective bearings. Invented by Eneval Kluge, St. Paul, Minn. Assigned to Brandtjen & Kluge, Inc., St. Paul, Minn. Application June 30, 1941. 2 claims.

2,368,500. PRINTING PRESS INKING MECHANISM for a rotary printing press. A baffle plate joins two outer walls and the bottom of the ink fountain, dividing it into two liquid containing sections. Bottom of fountain is inclined and a valve at bottom of the baffle plate allows liquid communication between the sections through the plate. An adjustable mechanism at top of baffle plate varies the effective ink-retaining height of the plate, thereby varying the effective depth of immersion of the fountain roller in the ink, but the maximum ink-retaining height of the plate is below the level of lowest outer wall of the fountain. The invention is particularly useful when water base inks are to be used in the printing press. Invented by Auburn Taylor, Charleston, W. Va., and Emory W. Worthington, Chicago, Ill. Assigned to The Goss Printing Press Company, Chicago, Ill. Application May 21, 1942. 9 claims.

2,368,776. INK RESERVOIR OF A PRINTING PRESS which may be removed and replaced without tilting so that it need not be previously drained. The doctor blade can be adjusted into a desired relation to any one of the available printing cylinders and can be swung away from the cylinder for cleaning. Reservoir may be fitted operatively against the hubs at the lower sides. A frame forms a horizontal guide and support for the reservoir on which it may be moved and guided to a definite position in vertical alignment with, but below, the hub-engaging position of reservoir. Another frame guides reservoir in its vertical upward movement from hub-engaging position and laterally supports it during such movement. A lifting lever is provided for raising reservoir and keeping it raised. Invented by Thomas E. Piazze, Lyndhurst, N. J. Assigned by mesne assignments to Champlain Company, Inc., New York, N. Y. Application August 26, 1942. 13 claims.

2,369,290. SCREEN PRINTING MACHINE FOR CLOTH which is an improvement on that shown in patent 2,206,176 of July 2, 1940. Instead of clamp frames to hold the material to be printed, as in the prior patent, the new apparatus employs the adhesive characteristics of the dyestuff to hold the cloth on a backing sheet which is advanced across the table in stages so an entire bolt of cloth, instead of a comparatively small unit, may be printed with a continuous design. Thus yards instead of units of cloth may be printed but the expense of setting up a regular rotary printing press, including making of rotary printing plates, etc., is obviated so that short runs of different designs are economical. Registering pins permit close registry between succeeding design units so there is no noticeable break in design and also so that additional colors may be printed in registered position. Invented by Robert F. Foard, Los Angeles, Calif. Unassigned. Application May 18, 1942. 8 claims.

2,369,404. ROTARY PRINTING MACHINE which has special means for causing relatively stiff sheets of any kind of material being printed to conform to the surface of the tympan cylinder. In the preferred embodiments of the invention, these special means include bearer strips attached to the printing roll or vacuum or magnetic force (for printing magnetic, flexible metal sheets) applied through the tympan cylinder. Two or more of these means may be used jointly. Thereby stiff but flexible sheets may be printed on this rotary press without the common slurring as occurs when type rides on the article before finally pushing it down firmly against the cylinder. Since the leading and trailing edge of a stiff sheet has the greatest tendency to project from a cylinder, the machine is particularly useful in avoiding slurring when printing envelopes, such as the corner cards near the edges. Invented by Elmer G. Overly, Oakmont, Pa. Unassigned. Application October 29, 1940. 4 claims.

2,369,423. PRINTING PLATE CLAMP which may be moved along a grooved support into engagement with an edge of plate. A hook is provided with a guide slidable in a groove of the support and a nut has a shallow recess for housing the guide. A clamp screw passes freely through the hook and guide into threaded engagement with the nut. The guide has angular surfaces and the recess has corresponding coacting angular surfaces to prevent the hook from exerting side strain on the screw when the nut is subjected to endwise force. This construction relieves shearing or side strain on the clamp screws when forcing clamps into position and it is thus possible to use this type of clamp in high speed presses. Invented by Howard M. Barber, Pawcatuck, Conn. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Original application October 2, 1942; divided and this application June 12, 1943. 2 claims.

2,369,602. SCREEN PRINTING APPARATUS especially for preparing signs. A table has a screen printing frame unit with characters that are spaced as indicated on the frame of the unit. Printing base is supported and centered on table by a holding member. Mechanism carried by table supports frame unit for slidable movement over printing base longitudinally of table. The spacing blocks used correspond to the spacing of characters, which blocks are supported longitudinally of table and in a centered relation longitudinally of printing base. Spacing blocks may be aligned in succession with certain of the characters transversely of table and the aligning mechanism may be adjusted longitudinally of table. Invented by Wesley Petty and Carl H. Wiley, Effingham, Ill. Unassigned. Application June 11, 1941. 9 claims.

SAVE with TELETYPESETTER

1. SAVE TIME with Teletypesetter
2. SAVE MONEY with Teletypesetter
3. SAVE ERRORS with Teletypesetter

Punch a tape with the Teletypesetter perforator, place the tape in the Teletypesetter operating unit, and the line composing machine sets the type automatically.

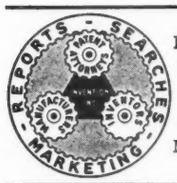
Users have learned that the Teletypesetter system saves *time*, *money* and *errors*. Time, because Teletypesetter is by far the speediest method of machine composition—350 to 400 lines of straight matter per hour for each machine. Money, because Teletypesetter cuts type production costs nearly in half. Errors, because keyboard perforator operation is separated from the teletypesetting machine.

Teletypesetter has been saving time, money and errors for publishers and job printers for 13 years. As soon as our war job is done, Teletypesetter will be ready to *save* for you. In the meantime, we are ready to accept your order for peacetime delivery. Write today for details.

TELETYPESETTER CORPORATION
1400 Wrightwood Ave., Chicago 14, Ill.

Buy all the War Bonds you can—and keep all you buy!

TELETYPESETTER
REG. U. S. PAT. OFFICE



For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

Book Auctions May Multiply

We report on the Newark (N.J.) Craftsmen's Club book auction, not because it was a purely local event, but because it has the makings of an event which may be emulated by other craftsmen's clubs throughout the country. It is our understanding that the Cincinnati Craftsmen's Club has announced its intention to hold a similar auction in May.

The book auction sponsored by the Club of Printing House Craftsmen of Newark and vicinity for the purpose of deriving funds for the acquisition of new technical and historical books on the Graphic Arts to be placed in the Newark Free Public Library, was successful. A

NEWSPAPER MECHANICAL EXECUTIVES SAY THEY'RE UNBEATABLE

Hundreds of executives now using Eastern TRU-MOLD Cork Molding Blankets and "Flecto" Gummed Backing Felt say that these two products are unbeatable for improving newspaper printing. Eastern TRU-MOLD Cork Molding Blankets have the correct percentage of Bakelite incorporated in the cork composition binder to insure perfect density. That's why they permit sharper impressions. And this blanket has greater flexibility to hold edge-cracking to a minimum.

TRU-MOLDS are now available in "Medium," "Medium-Hard" and "Hard" density.

Sizes	1/4" Each	5/16" Each	3/8" Each	3/16" Each
20" x 24"....	$2.50	$3.75	$4.50	.....
21" x 25"....	2.75	4.00	4.75	$2.50
22" x 26"....	3.00	4.25	5.00	.....

(One size only on 3/16"—21" x 25")

"FLECTO" GUMMED BACKING FELT sticks fast on any mat, regardless of heat used in scorching. Its adhesive will not crack, peel, slip or crystallize.

More than that, you can tear "Flecto" easily and cleanly, without ragged edges.

Each and every sheet is gauged accurately and uniformly throughout and will not peel or separate in layers.

"Flecto" is soft and pliable, assuring conformity to the mat and easy shrinking with the mat.

GAUGES AND SIZES

Gauges .021, .025, .030 (Green) sheeted 18" x 24".

Gauge .035 (Red) sheeted 18" x 24".

Gauges .040, .045 (Green) sheeted 18" x 22".

Gauges .050, .060 (Gray) sheeted 18" x 22".

Cut into strips 9" or 18" long and 1/8" to 1" wide at no extra charge.

EASTERN NEWSPAPER SUPPLY CO.

9603 NORTHERN BOULEVARD — CORONA, L. I., NEW YORK

total of 129 books were donated for the auction that was held on February 8, at the Hotel Riviera, Newark, N. J. The books brought a return of $577. All books were upon a Graphic Arts subject or subjects.

An address: *Gold Mines Under Covers*, was rendered by Harry L. Gage, vice president, Mergenthaler Linotype Company and another address: *The Libraries' Use of Print*, by John B. Kaiser, Librarian, Newark Free Public Library, were the oneducatial features for the evening. A. Silverstein, Executive Secretary to the mayor of Newark, expressed a few sentiments on his behalf.

Paul Bennett of the Mergenthaler Linotype Company was guest auctioneer. Supporting auctioneers were: Lt. H. Randolph Karch, U. S. Navy, and a former Board member of the International Association; Russell J. Hogan, president of the New York Club of Printing House Craftsmen; Harvey Glover, junior past president of the International Association, and Edward Kelley, vice president of the New York Club.

Mail bids were received, prior to the sale, from sources all over the country and Canada; the night of the sale climaxed the efforts of the committee to have every book represented with at least one outside bid. Every book had one or more bids recorded from out-of-town sources. Most of the books were sold to successful bidders from the audience and some of the offerings incited competitive bidding. Every book was sold.

EMPLOYMENT
AND SERVICE

NEWSPAPER PHOTO-ENGRAVER — Practical. Experienced in all branches; available for superintendent or foreman situation anywhere in U. S.; union member; day or night position acceptable; 20 years experience large daily papers. Reply Box 225.

Address all communications with box number to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

GAVC Elects

Edward N. Mayer, Jr., president of James Gray, Inc., New York (N.Y.) lithographers and direct mail specialists, was elected president of the Graphic Arts Victory Committee, Inc., following the annual meeting held February 8 at Murray Hill Hotel, New York City. Mr. Mayer is also international president of the Mail Advertising Service Assn. The retiring president, A. G. McCormick, Jr., who is secretary of McCormick-Armstrong Co., Wichita, was elected chairman of the board.

Other officers, all re-elected, are first vice president, F. G. Rudge, Wm. E. Rudge's Sons, Inc.; second vice president, George L. Welp, International Printing Ink; secretary, E. F. Trotter, Printing Magazine, all of New York, N. Y., and treasurer, Harry A. Porter, vice president, Harris-Seybold-Potter Co., Cleveland.

It was reported that, although 222 of the first 224 requests for permission to hold conventions had been denied, the ODT is still receiving 300 to 500 requests for such permission each week. ODT is distributing 15,000 of the GAVC booklet "How to Hold Your Convention by Mail" and everyone requesting permission to stage a convention is sent a copy of the booklet.

The GAVC passed a resolution reminding WPB that continuance of the principle of parity in paper quotas for all types of paper-users will be essential to assurance of continued co-operation of the commercial industry in promotion of war-theme publicity.

Hoe Wins Fifth Award

H. M. Tillinghast, president of R. Hoe & Co., Inc., made public in the first part of February a congratulatory letter from Robert P. Patterson, Under Secretary of War, addressed to the men and women of the Hoe company, notifying them of the Fifth Army-Navy Award for their outstanding services in the production of war equipment.

The Hoe company received its first Army-Navy Award in August, 1942, its second in May 1943, its third in November 1943 and its fourth in June 1944.

EXECUTIVE ¶s

Two hundred employees of the Stephen Greene Company paused in their production of war products long enough on January 29 to pay tribute to Mortimer P. Summers, General Superintendent of the company's rotary press department. That day marked the 40th year of Mr. Summers' connection with the company. In 1905 he assisted in the design and experimentation of what is thought to be the first successful fanfold press. The company is one of the larger manufacturers of fanfold business forms in the continuous form industry. On behalf of his associates and friends, William C. Lamprechter, Vice President and General Manager of Stephen Green Company, presented to Mr. Summers a gold pocket watch appropriately inscribed to honor the occasion.

Across the Pacific in four days via ultra modern hitch hiking methods. That's how U. S. Navy Lieutenant Robert H. Flint arrived home on time for Christmas dinner. He left Leyte Island in the Philippines on leave and just one week later he was with his wife and two daughters in Michigan for a 30 day leave. The route taken and actual flying time is a closely guarded secret. Illustrating

Lieut. Robert H. Flint, USN, visited family in Detroit.

wartime aviation progress, this is said to be 24 hours faster than the prewar Clipper schedule. Most of Lieutenant Flint's Pacific service was spent on night patrol blockading large groups of Japs left isolated by the rapid forward sweep of the U. S. Navy. He has three battle stars to remind him of his brushes with the enemy as commander of three P. T. boats. Listening to his first-hand experiences with the U. S. Navy in the Pacific gives one an insight into the tremendous task ahead and at the same time a feeling of great pride in the keen strategy exercised by both Navy and Army leaders. In peace-time Lieutenant Flint is secretary of the Howard Flint Ink Company. He was a star hand-ball player before entering the Service nearly three years ago, having won five successive DAC singles championships and then, with his brother Edgar took a doubles title.

Val Wells, assistant mechanical superintendent of the Des Moines *Register* and *Tribune*, suffered a light stroke in February and was confined to a hospital for three weeks. He has improved greatly and after a month or six weeks rest, expects to resume his duties at the *Register-Tribune* plant.

John J. Yezbak has been appointed Manager of Public Relations as well as the News Bureau of The Timken Roller Bearing Company, Canton, Ohio, according to an announcement made by Company officials. Yezbak, who has been head of the firm's news bureau since joining the company in June, 1943, is a graduate of New York University.

In recognition of 25 years of service with Ault & Wiborg and the International Printing Ink Division of Interchemical Corporation, John F. Brockschlager was recently presented a gold wrist watch by the Milwaukee office of IPI, where he is on the sales staff. A gold wrist watch was also presented to Daniel J. Wohlers for 29 years service with Philip Ruxton Inc. and International Printing Ink. Mr. Wohlers is Milwaukee Service Station Manager for the latter company. The presentations were made by E. T. Nigman, Manager of the Milwaukee Office.

The many friends of Charles H. Stout, vice president of Matrix Contrast Corporation, will be pleased to learn of his advancement to Lieutenant Commander, USNR. He is serving in the Pacific Area.

COMPARE THESE SLUGS

Cast from Monomelted metal, slug is sharp-faced, clean, solid throughout.

Cast from unbalanced off-temperature metal, this slug is hollow and fuzzy-faced.

If You Prize Good Typography

These slugs are examples of work done by *identical* line casting machines . . . one equipped with the Monomelt System of type metal handling the other without.

The solid, crisp-faced *Monomelted* slug shows what a good line casting machine *can* do, when type metal is clean, properly heated and correctly balanced.

The distinctive typography you prize for your pages is protected by *Monomelting* your metal. Monomelted metal gives every type face the full value of its design,

MONOMELT SYSTEM PAYS FOR ITSELF!

The *Monomelt* System of metal melting and handling will pay you 100% profit on its cost each year, through preventing down time and re-casting. In addition, your metal purchases will be much less, your melting and handling costs will drop sharply, and dross will be reduced 50 to 75%. WRITE TODAY for the story of *Better Typography Through Better Metal.*

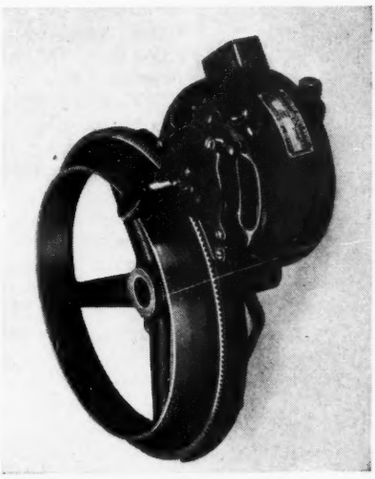
MONOMELT COMPANY 1611 POLK STREET N. E. Minneapolis 13, Minn.

Quick Deliveries of

CUSHMAN (OFFSET) MOTORS

And here's a tip: Before you order motorized equipment of any make, on any machine, consider the use of a three phase line. It offers you best protection against breakdowns. Consult your electrician.

Send for your Cushman Parts Catalog and Instruction Book.



Cushman Motor Division

LINOTYPE PARTS COMPANY

WEATHERLY. PENNA.

BEVERIDGE DRY MATS *are Dependable*

SAMPLES TO YOUR SPECIFICATIONS GLADLY SENT GRATIS UPON REQUEST

New Products Division

THE BEVERIDGE PAPER COMPANY

INDIANAPOLIS 4, INDIANA

60 YEARS OF PAPER MAKING SKILL

At a meeting of the Board of Directors of the Lanston Monotype Machine Company, Philadelphia, held on Saturday, January 29, Joseph F. Costello was elected president of the company. He has been serving as executive vice president. Chairman of the Board Harvey D. Best announces that Mr. Costello will continue to serve also as chief engineer and production manager. Stanley E. Haigh, who has served as Philadelphia district manager for 25 years, was made vice president. He will continue to supervise the operations of the Philadelphia district along with his general work as vice president. George E. Nelson will continue to serve as assistant Philadelphia district manager. J. A. Mullarkey has been appointed sales manager of the company. Harvey D. Best remains as chairman of the board.

Type Man of the Year

Ed T. Cooper of Cooper & Beatty, Ltd., trade composition house in Toronto, Can., and ex-president of the International Trade Composition Association, has been selected "Type Man of the Year 1944" by the ITCA. The preferment came to Mr. Cooper because of his work in developing a Simplified Cost-Finding System for Trade Composition Plants. The members of the Association felt that Mr. Cooper had done more than any other for the trade composition industry during the past year.

The Sta-Hi Corporation of Los Angeles announces that the interests of A. W. Cochran and Henry W. Dewey in this company have been taken over by Sta-Hi Corporation and Mr. C. C. Baker.

At a Board of Directors' Meeting, Mr. Baker was elected President, Mr. O. T. Cochran, Secretary and Mr. Allen Joyce, Vice President and Treasurer, as of January 15th.

Mr. A. W. Cochran was appointed Eastern Factory Representative, with headquarters in New York City.

Paisley Products, Inc., New York, announce appointment of A. R. Nordone as Western New York sales representative, located at 423 Eggert Road, Buffalo 15, N. Y. Nordone will provide technical service to industrial adhesive users in New York State west of Syracuse. Prior to his present connection Mr. Nordone served 14 months with the Army Air Forces.

R. J. Cashion, vice president of J. M. Huber, Inc., recently announced that Charles Edward Fast has joined the printing ink manufacturing firm in the capacity of Development Engineer. He will put into effect the results of his studies at Cornell University. With regard to the future of the printing ink industry, Mr. Fast believes that transportation and shipping will open a wide new consumer field as new improved shipping methods call for more extensive use of printing on corrugated boxes and cartons.

Jack McEwan Watson, Director of Color Matching and Formulating Activities for J. M. Huber, Inc. was elected President of the New York Printing Ink Production Club at its annual meeting on January 17.

In the February issue of *Printing Equipment Engineer* announcement was made that Clarence J. Walkoe, formerly with the Mergenthaler Linotype Company in Minnesota and Wisconsin was taking over duties in Minnesota, North and South Dakota, in addition to Wisconsin, for the Imperial Type Metal Company. We regret to say that this was somewhat in error. Just to set the record straight, Clarence Walkoe will confine his activities with the Imperial Type Metal Company to the states of Wisconsin and Iowa. Arch Sovde continues to represent this company in Minnesota, North and South Dakota. We regret exceedingly this error and trust that the friends of these two representatives in these Northwestern States, as well as the men themselves, will suffer no inconvenience due to this error.

Lt. Hugh F. Gage, USNR, formerly of Linotype's advertising department at Brooklyn headquarters, has been awarded the Bronze Star for meritorious conduct in the landing operations at Anzio, where he commanded a mine sweeper. Lieutenant Gage, who at present is attending a mine-warfare school in this country after nearly two years in the Mediterranean, is the son of Harry L. Gage, Linotype vice president.

This illustration represents one section of the display of printed matter exhibited by the Topeka (Kas.) Craftsmen's Club at the Optimists' Luncheon Club. The Craftsmen also furnished a speaker and a movie for the Optimist meeting. Other displays were exhibited in street level store windows during the week.

Craftsmen's International Printing Education Week Got Off To a Good Start

AS the result of a resolution passed by the International Craftsmen's Convention in Niagara Falls, Ont., July 1944, a number of local Craftsmen's clubs in various parts of the country initiated observance of International Printing Education Week, January 15 to 20 inclusive. The inspiration of the celebration of Printing Week by Craftsmen's Clubs originated with the Newark (N.J.) Craftsmen's Club together with Perry R. Long, first international president.

Public Relations Chairman F. L. Ferris reports that a goodly number of local Craftsmen's Clubs held worthwhile ceremonies and exhibited printed matter in attractive manner. Some of the clubs who worked hard on the project were: Citrus Belt, Topeka, Minneapolis, Rochester and Dallas. Clubs in Chicago, Washington, Columbus, Peoria, Utica and Topeka dedicated the major portion of the bulletins to Printing Week events.

Mr. Ferris states that his report was prepared before complete returns had been received from local clubs. Thus it is more than likely that many other clubs held Printing Week observance.

The Topeka Club organized things so that churches, schools, libraries, newspapers, magazines, clubs, industries and retail stores cooperated. The Topeka club distributed 150 posters, 2000 booklets, and secured a total of 300 column inches in local newspapers.

Beating Ploughshares Into Swords

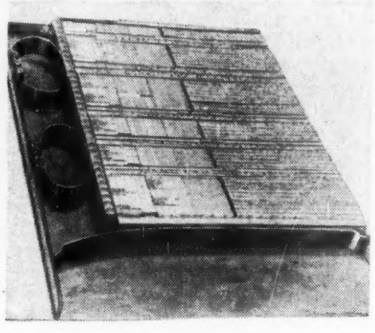
This 8 page illustrated booklet published by Lanston Monotype Machine Co. to describe the use of the M-H Template camera in the Seattle plant of the Boeing Aircraft Co., where Flying Fortresses and Superfortresses are made. The Monotype Co. had a double purpose in mind in publishing the booklet: (1) To show how the M-H camera has been converted to a tool in the war effort, and (2) To suggest the possibilities of the use of photographic methods on engineering and production work in industrial plants. A foreword in the booklet is devoted to a discussion of industry's application of machines and devices which were originally designed and for years were employed in industrial manufacture. Under the direction of American engineers and in the hands of American mechanics these machines have been put to uses far beyond the concepts of their designers. In this booklet, of course, only Monotype's diversion of the M-H camera to other than lithographic use is discussed. An interesting description of the M-H Photo-Template Camera and procedure for negatives and projection are given. Copies will be sent upon request to Lanston Monotype Machine Co. direct or *Printing Equipment Engineer* will gladly pass along your request.

Now, more than ever, Mohr saw owners appreciate the important savings in time, made possible by this automatic slug saw. Slugs are cut to any desired length as they are ejected from the linecasting machine. 100% automatic operation. Accurate and speedy.

Write for information about the Mohr Measure Control Unit—the quick-changing feature which makes possible instant and precise adjustment of slug length.

MOHR LINO-SAW COMPANY
126 N. Union Avenue Chicago 6, Ill.

Now Available



"RIEHLOCK" GALLEY LOCKS

We now have a supply of the time and labor saving "Riehlock" Galley Locks available. These efficient locks are made of clock-spring steel in all galley sizes and are made to last a lifetime. Here are the prices of the more popular sizes.

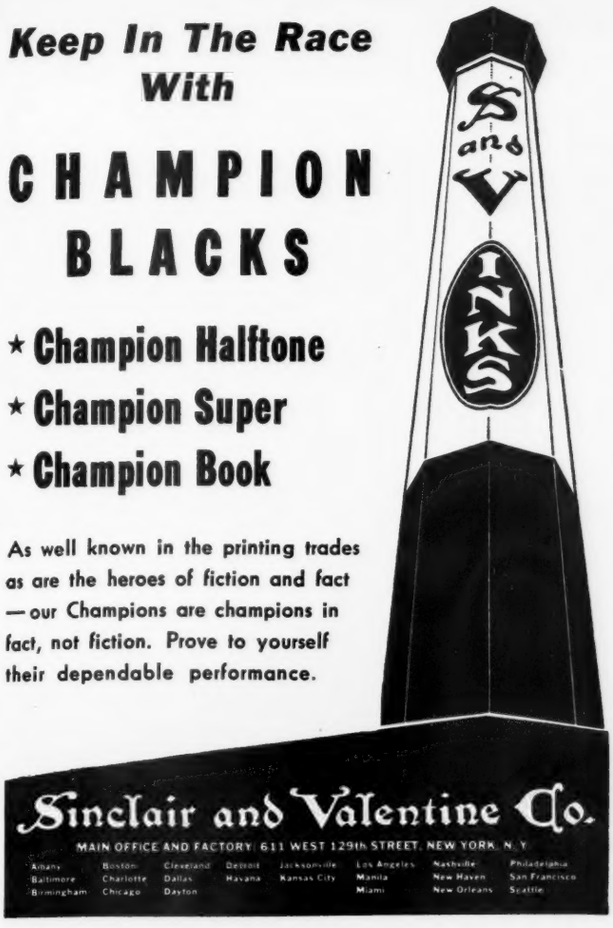
Width of Galley	25 to 99 Each	100 and over Each	Width of Galley	25 to 99 Each	100 and over Each
3½ inch..	.10	.08	10 inch..	.15	.12
26½ pica.	.12	.10	10½ inch..	.15	.12
6¼ inch..	.12	.10	12 inch..	.18	.15
8½ inch..	.14	.12	17¼ inch..	.25	.23
8¾ inch..	.14	.12	19½ inch..	.28	.26

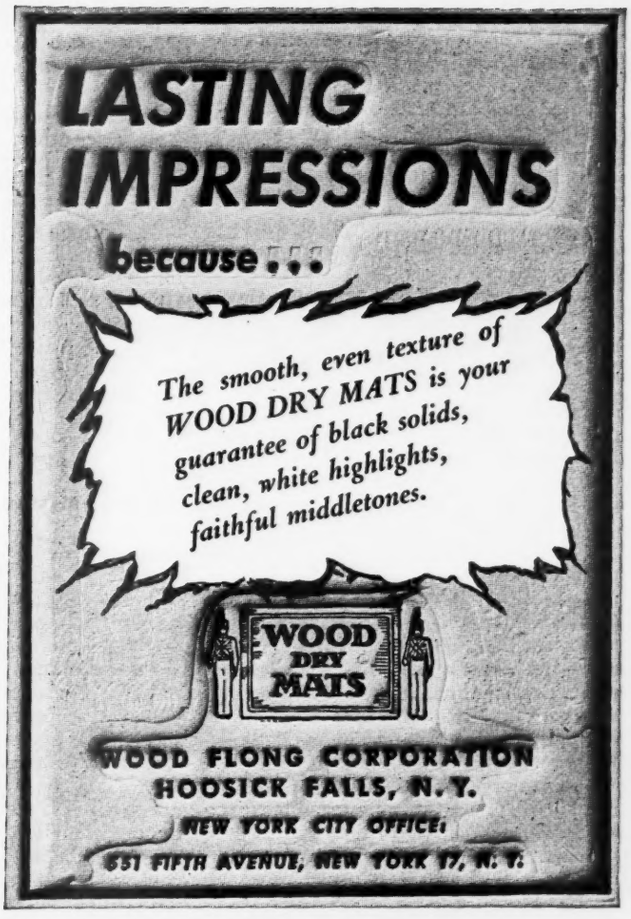
GALLEY SIDE LOCK

Size	25 to 99 Each	100 and over Each
8 inch.....	.10	.08

GET YOUR REQUIREMENTS WHILE THE SUPPLY LASTS.
PRICES ON OTHER SIZES OR INFORMATION UPON REQUEST

RIEHL GALLEY LOCK CO., INC.
1312 ONTARIO ST., CLEVELAND 13, OHIO


Keep In The Race With
CHAMPION BLACKS
★ Champion Halftone
★ Champion Super
★ Champion Book
As well known in the printing trades as are the heroes of fiction and fact — our Champions are champions in fact, not fiction. Prove to yourself their dependable performance.
S and V INKS
Sinclair and Valentine Co.
MAIN OFFICE AND FACTORY: 611 WEST 129th STREET, NEW YORK, N. Y.
Albany Baltimore Birmingham Boston Charlotte Chicago Cleveland Dallas Dayton Detroit Havana Jacksonville Kansas City Los Angeles Manila Miami Nashville New Haven New Orleans Philadelphia San Francisco Seattle


LASTING IMPRESSIONS
because . . .
The smooth, even texture of WOOD DRY MATS is your guarantee of black solids, clean, white highlights, faithful middletones.
WOOD DRY MATS
WOOD FLONG CORPORATION
HOOSICK FALLS, N. Y.
NEW YORK CITY OFFICE:
551 FIFTH AVENUE, NEW YORK 17, N. Y.

Wood Receives Second "E" Award

Oscar C. Roesen, President of the Wood Newspaper Machinery Corporation, was informed on February 13 by Under Secretary of War Robert P. Patterson, of the awarding to the men and women of the Corporation of the second Army-Navy Production Award for Meritorious services on the production front. This award adds a star to the Corporation's Army-Navy "E" Flag which was presented by the Army and Navy on August 28, 1944.

WPB News

Newspaper Building Application Approved

REVERSING two previous denials, after further submission of facts, the Construction Reconsideration Committee of the War Production Board on February 10 approved an application of Charles W. Flodin, publisher of the *River News*, of Rio Vista, Calif., to construct a one-story-and-basement brick and concrete building at an estimated cost of $14,000 to house the newspaper property.

The frame building in which the weekly newspaper has been published for the last 47 years was gutted by fire on June 25, 1944 and condemned by the City Council as beyond repair. Authorization to build a new building on the same site and priorities assistance to obtain the necessary building materials had been given to the owners, Rose Marks and Annie Serpa, both of Rio Vista, with the understanding that the rehabilitated premises would again be rented to the publisher. Consequently, Mr. Flodin's application to build his own building on a different site was denied.

Mr. Flodin appealed the denial and the case was reviewed by the Regional Review Board and WPB's Reconsideration Committee at Washington, which sustained the decision of the regional board. Upon further investigation by the San Francisco regional office, however, it was disclosed that the owners of the damaged property did not intend to rerent to the publisher, but had obtained priorities assistance to rebuild as a new business venture without regard to the requirements of the newspaper publisher, whose business was considered essential.

Upon disclosure of these facts, WPB's Reconsideration Committee reversed its decision, approved the Flodin application and indicated that it will withdraw the authorization granted the owners of the damaged property to rebuild until such time as the owners can establish the essentiality of their projects.

Convention By Mail Booklet

Graphic Arts Victory Committee has published a revised edition of *How To Conduct Your Convention-By-Mail Booklet.* The booklet is letterhead size and consists of 16 pages. Association executives may obtain copies of the booklet by addressing the Committee at National City Bank Bldg., Madison at 42nd St., New York 17, N. Y.

Issue Statement With Respect To Paper Situation

IN connection with the consideration of second-quarter paper quotas by the War Production Board, a joint statement has been issued by James F. Newcomb, Co-Chairman of the Joint Committee on Government Relations of the Commercial Printing Industry, and Harold W. Hill, President of United Typothetae of America. The statement in part is as follows:

"For more than a year, the commercial printing industry has known of an increasingly short supply situation as regards all kinds of paper for printing. Whenever there is any shortage, it is only natural that each consuming group will be looking out for its own position.

"At the present time, the principle of parity is seriously threatened. The supply of newsprint, largely based on shipments from Canada, has held up reasonably well. The supply of fine, book, and groundwood papers is diminishing. Under these circumstances a strong move-

ment has developed, fostered by the newspaper industry, to restrict the use of newsprint to newspapers.

"If such a movement were successful, it would have the effect of causing a drastic cut in the paper quotas for commercial printers, magazines and books, without any cut in the use of paper by newspapers. This would completely destroy the principle of parity and equa treatment among the various users of printing papers.

"In the face of this crisis, the most vigorous joint action was called for immediately by the leading organizations of the printing industry. Accordingly, the Joint Committee and the United Typothetae of America joined forces to rally the maximum support for the position of the commercial printing industry and are calling upon every printing organization and printer to make a concerted effort to uphold parity.

"Approximately 10% of all newsprint has been used by commercial printers, magazines and books. The commercial printing industry has never sought a preferred position, but it does insist that newsprint is paper, that all quotas are to be based on an equal allotment by weight of paper, and that any user may buy whatever kind of paper is available. If the commercial printers, magazines and books are not permitted to buy newsprint, it will create a further scramble for the diminished supply of fine and book papers, completely destroy parity, and force a much sharper reduction in quota allotment for magazines, books and commercial printers than would ever be necessary under present circumstances when newsprint is a part of the total supply of paper.

"We fear that if any such unwise policy as the destruction of parity is followed by the War Production Board, it will completely disrupt commercial printing in the United States when it is making its maximum war effort. At the present time approximately 80% of all printing produced under the commercial printing quota is functional and utility printing, consisting primarily of printing used in connection with management and communications in war and civilian industry.

"Even consideration by the War Production Board of preferential treatment for any one user in the allotment of paper supplies is a threat to our industry, and we must be prepared to act vigorously to offset it.

"We expect your cooperation. The obvious soundness of the position taken by the commercial printing, magazine and book industries will be clear to the Board."

Corrections

There is an error on page 153, Stereotype Department Index, of the 1945 Reference Issue of *Printing Equipment Engineer*. The New York address of Wood Flong Corporation is given as 501 Fifth Ave., New York 17, N. Y. The New York office address should be 551 Fifth Ave., New York 17, N. Y. The main office and mill for Wood Flong Corporation is at Hoosick Falls, N. Y.

On page 187 of the Trade Name Index, same issue, Wood Flong Corporation's advertisement is listed as appearing on page 11 whereas the advertisement actually is on page 17.

Please make this correction in your copy of the 1945 Reference Issue.

Waste Paper Not a Condition of Sale

MANUFACTURERS of paper or paperboard who use wastepaper may not compel converters of the products to furnish them with wastepaper as a condition of sale, the Office of Price Administration announced today in an order effective February 10, 1945. The order also prohibits purchasers of paper or paperboard from furnishing such manufacturers with wastepaper.

This action was taken to preserve normal business methods prevailing in this industry and to correct existing speculative and manipulative practices in wastepaper, OPA said.

The order is not intended, however, to prohibit legitimate and useful business transactions and transactions that bring out additional supplies of wastepaper. Excluded from coverage by the order are:

1. Wastepaper accumulated by a purchaser of paper or paperboard in the course of his own converting;

SYNTRON
REG. TRADE MARK

DeLuxe
Cabinet Model CPJ-15
with
Knee Control Switch

"Vibrating"

PAPER JOGGER

The second model in a complete line of seven MONEY, TIME and LABOR-SAVING JOGGERS.

With a 14" x 20" vibrating deck, and standing 36" high.

Write for illustrated folder.

SYNTRON CO.

577 Lexington Homer City, Pa.

HIROHITO *says*
"So Unhappy"
when JUSTRITE
is on the job!

Naturally he's thumbs down on Justrite Safety Products for they're one of America's first lines of industrial defense against the hazards of fire.

For example, the Oily Waste Can at right is the safety approved container for oily, dangerous waste . . . that's always a fire hazard if carelessly or improperly contained. This safe, economical, efficient can is available in a wide range of sizes and is equipped with a foot lever opener if desired. All cans close automatically. Protect your plant from fire . . . reduce insurance rates with Oily Waste Cans that are safety approved . . . Justrite.

Tested for safety and stamped with approval by Underwriters' Laboratories, Inc., and the Associated Factory Mutual Fire Insurance Companies.

Ask your printing supplier about Justrite.

JUSTRITE MANUFACTURING COMPANY

2063 N. Southport Ave., Dept. J-2, Chicago 14, Illinois

"MISSION COMPLETED"

Such is the record of every job assigned Johnson Inks since they were first manufactured 141 years ago.

CHARLES ENEU Johnson AND COMPANY
GOOD INKS SINCE 1804

Philadelphia • New York • Chicago • Boston • St. Louis • Cleveland
Detroit • Baltimore • Kansas City • Pittsburgh • Atlanta • Dallas

IMPRESSIONS
that creep up on a man

Nobody had ballyhooed any change, but the fact suddenly struck this advertiser . . . It had been more than a year since he had seen reason to complain of picture reproduction in his chief home medium . . . In fact, the illustrations looked fine day after day and he ventured a compliment . . . "Thank you," was the reply. "We cured that old trouble we used to have. Certified mats give us better printing plates."

CERTIFIED DRY MAT CORPORATION
9 Rockefeller Plaza
Dept. M,
New York 20, N. Y.

For dependable stereotyping rely on Certified Mats

Certified DRY MATS

2. Dealers or brokers who legitimately buy and sell wastepaper;
3. Sales agents who sell without taking title to wastepaper;
4. Persons who accumulate wastepaper in "salvage drives" and devote proceeds of sales to public or charitable purposes;
5. Others who create additional sources of supply of wastepaper that would not find its way into the normal channels of delivery to manufacturers, and who by application obtain approval of OPA to consummate such sales.

Made Subject to Order Limiting Paper

PRINTING paper suppliers, printers, binders, distributors, wholesalers and dealers were made subject to the War Production Board limitation orders restricting the use of paper in magazine and books by amendments of Order L-244 and L-245 issued on February 5 by the WPB. Henceforth, it will be a violation for any paper supplier to sell or deliver paper to a publisher if he knows or has reason to believe that the consumption of that paper will be in excess of the publisher's quota. Further, no person may print magazines or books if he knows or has reason to believe that such printing will be in excess of the publisher's allowable paper consumption under the orders.

In addition, no binder, distributor, wholesaler or dealer may bind, agree to purchase for resale, or accept for resale, any magazines or books which he knows or has reason to believe were printed in violation of the two orders. A person who has accepted for resale magazines or books, which he knew or had reason to believe were printed in violation of the orders, may not dispose of them except for waste paper scrap or for redelivery to his supplier.

Violations of WPB orders are punishable, upon conviction, by fine and imprisonment, it was pointed out.

"The vast majority of magazine and book publishers have patriotically complied with the provisions of their respective limitation orders, and these amendments should not be regarded as a reflection upon the industry as a whole," J. Hale Steinman, director of WPB's Printing and Publishing Division, explained. "However, there have been a few violations, some of them flagrant. More stringent steps to stamp out violations of the printing paper consumption orders are necessary not only to safeguard the supply of this vital war material, but also to protect the great number of publishers who are conscientiously living within the law," Mr. Steinman added. "Increasing demands by the military for ammunition, blood plasma containers, bomb bands, surgical wadding, parachutes, heavy truck tires and other war material made from pulp, as well as military requirements for paper itself, make it absolutely essential that there be rigid compliance with the limitations restricting the use of paper in magazines and books for the civilian market. The War Production Board is confident that these new amendments will receive the wholehearted support of the entire industry," he declared.

TO prevent interference with the use of manpower, facilities and materials for urgently needed war production, the War Production Board has rendered inoperative the provisions of Priorities Regulation No. 24 that have permitted the placement of unrated or non-authorized orders for certain types of capital goods and other equipment, WPB announced on January 27.

This action was taken by eliminating all WPB orders appearing in List A of the regulation from coverage by the regulation.

When the over-all manpower, facilities and materials supply picture has improved sufficiently, it is expected that certain products will again be covered by the regulation, WPB said. In taking such future action, it is expected that WPB will reinstate on List A orders affecting such equipment and machinery as it wishes to be covered by the provisions of the regulation.

Items covered by the orders that have been deleted from the list for which unrated or non-authorized purchase orders already have been placed and which have not been actually shipped, may not be delivered unless proper rating or

★ *Plan Carefully*

For FUTURE Production

The vital importance of economy of time has been graphically demonstrated during the war. No. 3-A C&G Saw Trimmers are established time-savers in many plants. Multiple efficiency is gained when C&G Saw Trimmers are so located that wasteful walking time to and from the saw is eliminated.

Additional C&G Saw Trimmers, convenient to every make-up bank, will convert walking time to productive time—with the resultant increased efficiency.

Whether you need replacement or additional saw trimmers, you should order now for the earliest delivery possible. Write for latest circular on the No. 3-A C&G Saw Trimmer.

MILWAUKEE SAW TRIMMER CORP.
610 EAST CLYBOURN STREET, MILWAUKEE 2, WISCONSIN

authorization is obtained or unless the particular WPB order is amended to allow such delivery. Unrated or non-authorized purchase orders for items affected by this amendment to Priorities Regulation No. 24 may be retained on purchasers' books, but must be treated as orders scheduled for delivery when applicable restrictions are modified to permit delivery. This rule, which affects so-called post-war orders generally, is contained in interpretation No. 11 to Priorities Regulation No. 1.

Manufacturers who are now producing or have planned to produce in the future on unrated or non-authorized purchase orders under the provisions of Priorities Regulation No. 24 will be expected to cut back any purchase orders they have placed for components, parts, and materials to conform to applicable WPB inventory regulations, WPB said.

Provisions of the regulation that permit applications for preference ratings on Form WPB-1319 for equipment and machinery needed for civilian production or performance of civilian services are not affected by the amendment.

Orders affected by this action, together with the types of equipment and machinery covered, follow:

L-89 Elevators and escalators
L-123 General industrial equipment
L-193 Conveying machinery and mechanical power transmission equipment
L-221 Electric motors and generators
L-226 Printing trades machinery
L-250 Electric motor controllers
L-298 Resistance welding equipment
L-311 Logging, lumber and wood products machinery and equipment.

Orders L-244 and L-245 Amended

ON February 6, WPB published corrected copies of L-244 (Magazines) and L-245 (Books) orders as amended February 5. One of the provisions of the amended orders which is common to both is that the orders limit the use of accumulated savings carried over from underuse of paper consumption quotas in previous periods. "A magazine publisher may not use, in a calendar quarter, any portion of his carry-over in excess of 15% of his consumption quota for that quarter. A book publisher may not use, in a calendar year, any portion of his carry-over in excess of 15% of his consumption quota for that year."

Respecting amendments to L-244 and L-245 orders, the Printing and Publishing Division of WPB pointed out that the new amendments affecting the quota carry-over privileges do not cancel out paper savings accruing from prior periods—they merely limit the rate at which such savings may be consumed.

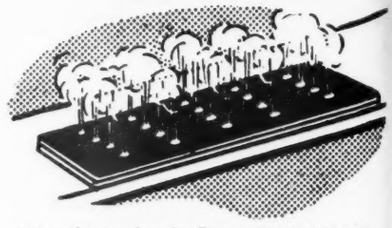
Restrictions have been added to L-244 Magazine and Periodical Order respecting magazines or parts thereof printed in violation of the order. The restrictions apply to paper suppliers, printers, binders, distributors, wholesalers, and others, and are as follows:

(1) No person may sell or deliver any paper which he knows or has reason to believe will be accepted or used in violation of this order.

(2) No person may apply ink to any paper in the production of magazines if

STEREOTYPE PERFORATED GUMMED PACKING FELT

Important where considerable shrinkage is employed



Manufactured under Patent No. 1,967,444

Is More Flexible • Forms with the Mat • Dries Faster • Sets Instantly

Send for a Trial Order Today—Sheets or Cut Strips

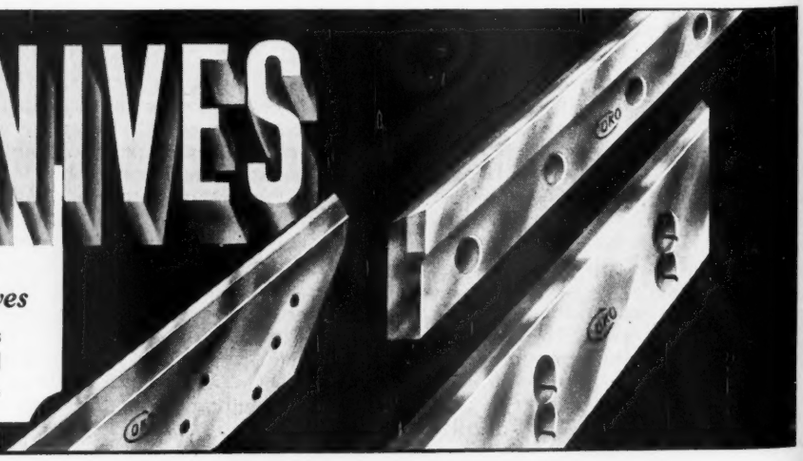
American Publishers Supply
P. O. Box 924 Lynn, Mass.

OHIO KNIVES

OK BLACK ARROW *Trimmer Knives*

A special heat treatment of the steel assures you of extra long life between grinds and a tough edge for all kinds of cutting.

OHIO KNIFE CO. • CINCINNATI 23, OHIO



Get Dust
"ALL-OUT"
with a
TORNADO
PORTABLE ELECTRIC BLOWER

In your all-out defense against dust danger and damage, use the TORNADO. Gets dust, dirt and lint *all out* of motors, linotypes, presses, folders. Makes motors and machines last longer. Also convertible for vacuum-cleaning of shelving, paper stock and type cases. Adaptable for spraying paint and insecticide. Keep your costs down—your profits up—by keeping your plant clean with a TORNADO.

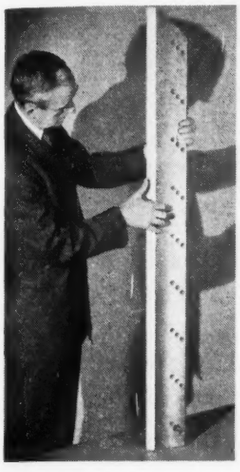
Write for details and Free Trial Offer!

TORNADO
PORTABLE ELECTRIC BLOWER

BREUER ELECTRIC MFG. CO.
5114 N. Ravenswood Ave., Chicago 40

TINGUE
TRADE MARK
PRINTING PRESS BLANKETS

TINGUE, BROWN & CO.
114-120 EAST 23rd ST, NEW YORK 10, N. Y.
1227 WABASH AVENUE, CHICAGO 5, ILLINOIS
723 E. WASHINGTON BLVD. LOS ANGELES 21, CAL.
507 PETERS STREET, S. W. ATLANTA, GEORGIA
CANADIAN SALES AGENTS ROSS WHITEHEAD & CO. LTD.



STANDARD EQUIPMENT
ON MANY LEADING TRIMMERS

This perfected SWW paper trimming knife features:
1. A .002" concave bevel; grinding to a razor edge sharpness made easier.
2. Greater rigidity—limits variance across a trim to less than .001" inch.
3. Special heat treatment responsible for the knife's unusual edge holding qualities.

On the market for 60 years. Thousands of printers use them. Yours awaits your order—by letter, wire or phone.

SIMONDS WORDEN WHITE COMPANY
607 NEGLEY PLACE
DAYTON, OHIO
SWWCo

DUPLEX PRESSES

Semi-Cylindrical • Unitubular
Tubular • High Speed Flat Bed
Flat Bed • Stereo Machinery

The Duplex Printing Press Co.
Battle Creek, Mich.

he knows or has reason to believe that the printing of such paper will be in excess of the publisher's allowable consumption under this order.

(3) No person may apply any additional ink to paper, and no person may bind or otherwise process paper, in the production of magazines if he knows or has reason to believe that such paper was printed in excess of the publisher's allowable consumption under this order.

(4) No person may agree to purchase for resale, and no person may accept for resale, any magazines which he knows or has reason to believe were printed in excess of the publisher's allowable consumption under this order.

(5) No person may sell, distribute or otherwise dispose of magazines, except for redelivery to his supplier or for use as waste paper scrap, if, before he accepted them, he knew or had reason to believe that they were printed in excess of the publisher's allowable consumption under this order.

A special provision is also now included in the order so that a special tonnage of paper may be allotted for printing magazines which will be furnished without charge to U. S. Armed Forces personnel in the continental U. S., and special "pony editions" of magazines which will be furnished to U. S. Armed Forces personnel overseas, whether such "pony editions" are sold or not. The overseas allotment may be extended to regular editions where the production of special "pony editions" is impracticable because of the small number of copies involved.

Urges Conservation of Four-Color-Process Red Inks

CONSERVATION in the use of existing supplies of four-color-process red printing inks was urged on February 10 by officials of the War Production Board Printing and Publishing Division in view of the shortage of the basic ink making material, phthalic anhydride.

Military requirements have created a shortage of phthalic anhydride, which is required in the manufacture of pigments used in certain four-color process printing inks—particularly red ink and some shades of blue and green when fastness or resistance to light, soap, alkali, acid and certain other substances is necessary, WPB officials explained.

A small quantity of phthalic anhydride is being allocated for February and March to provide process red inks for use with four-color printing plates.

Printing and Publishing Division officials said they felt that this quantity of phthalic anhydride in addition to present inventories of process red inks would be sufficient to meet requirements of 4-color process printing plates already manufactured if strict conservation is practiced.

Printing ink manufacturers are reported to be developing substitute four-color-process red inks from other basic materials that appear to be more available. Simultaneously, engravers are said to be working on the production of four-color-process plates that can be run with the substitute inks.

Zinc To Be Returned to Allocation

ZINC will shortly join the lengthening list of metals that will again be placed under allocation because of increasing war requirements, War Production Board officials told the Zinc Producers Industry Advisory Committee at a meeting held on February 16. Zinc went off allocation on September 15, 1944. The new regulations are expected to follow closely the previous allocation order.

Officials of the Tin-Lead-Zinc Division said that the total indicated 1945 consumption is 1,078,000 T. of slab zinc, as compared with an indicated production, including imports, of 870,000 T., leaving a deficit of 208,000 T. These statistics point to an average monthly shortage of 18,000 T., WPB said.

Brass-mill needs for the ammunition program will account for 480,000 T., in 1945, while zinc needed in steel mills for galvanizing will total 270,000 T. Die casters, rolling mills and ingot producers of copper and zinc base alloys will account for a greater part of the rest of the demand.

Send for This Free Specimen Book

53—COLORS, BLACKS, WHITES, COMPOUNDS

Write to International Printing Ink, 350 Fifth Avenue, New York 1, N. Y. Branches in principal cities.

ipi Everyday INKS

WANTED TO BUY

CRAFTSMAN LINEUP TABLE 25" x 38" or 38" x 50", Vandercook No. 320 composing room cylinder press; and Miller or Hammond saw. Good condition. Immediate cash. W. T. Hansen, William E. Rudge's Sons, 225 Varick Street, New York, N. Y.

SAFETY·RELIABILITY·ECONOMY

CLINE PRESS DRIVES and CONTROL Reels, Tensions and Pasters...

CLINE SYSTEM

CLINE ELEC. MFG. CO.

Chicago: 211 West Wacker Drive
New York: 220 East 42nd Street
San Francisco: 1st Nat'l Bank Bldg

A.P.S.

STEREOTYPE
GUMMED PACKING
CORK BLANKETS
CREEPERS
POURING SHEETS
ROUTER BITS
TAILBOARDS

ALWAYS BEST AT

AMERICAN PUBLISHERS SUPPLY
P. O. Box 924 Lynn, Mass.

RICHARDS Saws SINCE 1910

"MULTIFORM"
"ELECTROMATIC"
"DOMORE" "CLIPPER"
SAWS — ROUTERS — DIES
J. A. RICHARDS CO., Kalamazoo, Mich.

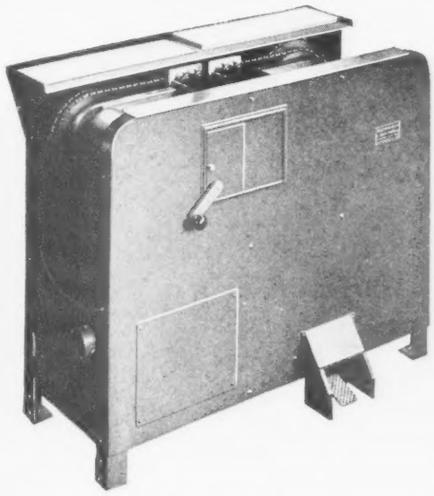
Ideal SYNTHOX *Rollers*

EFFICIENT, all-synthetic surface rollers for every press position. Take tough ductor operation. Form rollers print clear, clean colors; distributors have affinity for linseed, aniline and other inks. Material applied to your cores. Guaranteed against defects in workmanship and material. Used in hundreds of plants with great success.

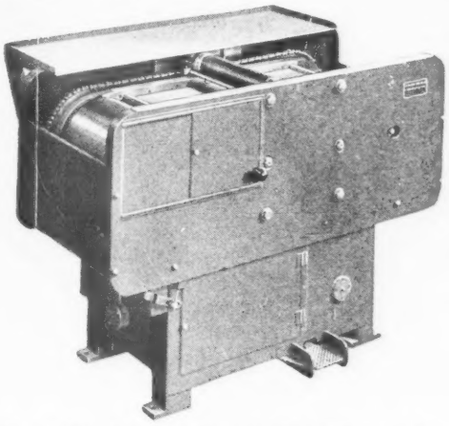
IDEAL ROLLER & MANUFACTURING COMPANY Chicago 8, Illinois Long Island City 1, N.Y.

Advertisers' Index for March

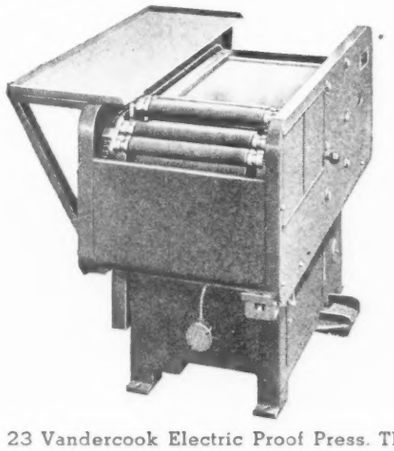
American Publishers Supply 42-44
American Type Founders 10
Atlantic Zinc Works 29
Beveridge Paper Co 37
Booth, The E. A. Rubber Co 31
Breuer Electric Mfg. Co 43
Burgess Cellulose Co 32
Certified Dry Mat Corp 41
Challenge Machinery Co., The 31
Cline Electric Mfg. Co 44
Duplex Printing Press Co., The 43
Eastern Newspaper Supply 35
Hammond Machinery Builders, Inc 7
Harris-Seybold-Potter Co ..... Inside Front Cover
Hoe, R. & Co., Inc 27
Ideal Roller & Mfg. Co 44
Imperial Type Metal Co 2
International Printing Ink, Division of Interchemical Corp 44
Intertype Corporation ..... Outside Back Cover
Johnson, Chas. Eneu, & Co 41
Justrite Mfg. Co 40
Lake Erie Engineering Corp 2
Linotype Parts Co 33-37
Ludlow Typograph Co 1
Mergenthaler Linotype Co 25
Miehle Printing Press & Mfg. Co 8-9
Miller Printing Machinery Co 3
Milwaukee Saw Trimmer Corp 42
Mohr Lino-Saw Co 38
Monomelt Co 36
Ohio Knife Co 42
Richards, J. A., Co 44
Riehl Galley Lock Co., Inc 38
Rouse, H. B., & Co 30
Scott, Walter & Co., Inc 6
Simonds, Worden White Co., The 43
Sinclair and Valentine Co 39
Syntron Co 40
Teletypesetter Corp 34
Tingue, Brown and Co 43
U. S. Treasury 28
Vandercook & Sons ..... Inside Back Cover
Wetter Numbering Machine Co 33
Wood Flong Corp 39
Wood Newspaper Machinery Corp 4



No. 22 Vandercook Electric Proof Press takes full length galleys up to 9¾" wide. Full ball bearing construction.



No. 23 Vandercook Electric Proof Press takes full length galleys up to 14¾" wide. The size makes this a good press for newspaper, magazine, book or catalog printer.



No. 23 Vandercook Electric Proof Press. This end view shows synthetic rubber inking rollers on motor driven ink drum.

No. 22 and No. 23 VANDERCOOK *Electric* PROOF PRESSES

These high speed proof presses are designed for proving type or forms in galleys.

The No. 22 Vandercook Electric Proof Press is used extensively for proving type as it comes from the machines, or for proving smaller ads.

The No. 23 Vandercook Electric Proof Press will take a six column newspaper advertisement or a tabloid size full page. Either press will prove up to forty proofs a minute, the rate of operation being adjustable to the ability of the operator.

A motor-driven ink drum and ample inking rollers insure thorough distribution and good quality of printing.

The No. 22 and No. 23 Vandercook Proof Presses are designed for ease of operation and speed of production. Every consideration has been taken to eliminate waste motion and undue operator fatigue.

Though no Vandercook proof presses are available for immediate delivery, full information should be obtained before plans for postwar proving are completed.

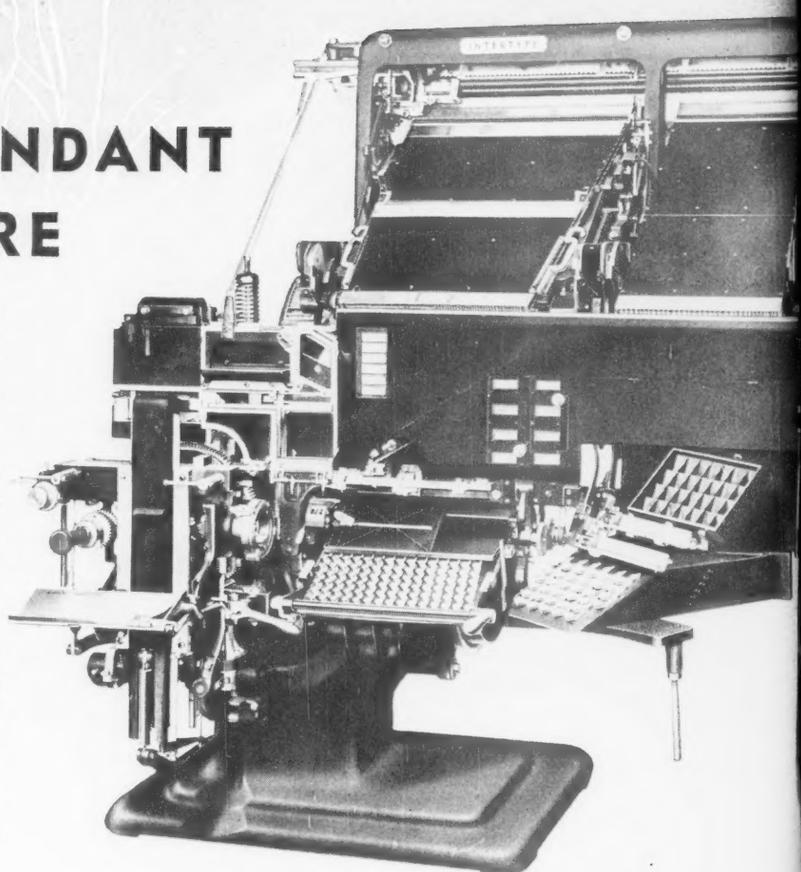
VANDERCOOK
PROOF PRESSES - BLOCK LEVELLERS
HACKER GAUGES

VANDERCOOK & SONS, 900 N. Kilpatrick Ave., Chicago 51, Illinois

DIRECT DESCENDANT OF PAUL REVERE

Though the famous silversmith rode fast and far, the number of people he reached with his message was hardly large. Not by today's standards. For today printing and publishing carry our country's calls to millions of people ...rouse them to lend their money, give their blood, contribute the sweat of their bodies in vital war work.

But without machines such as the Intertype on this page—a machine which sets type a line at a time, with fine precision and high speed—the printing and publishing we know today would never have become economically feasible. Never could we have given urgent, detailed, written information and instructions to millions of people...simultaneously...overnight. Intertype, Brooklyn 2, N. Y.



INTERTYP